



TEXAS TECH UNIVERSITY

Climate Science Center™

April Newsletter 2016

Earth Day TX: Texting for Climate Action

Our CSC co-director, Katharine Hayhoe along with Associate Professor of Atmospheric Science, Jennifer Vanos, spoke to a group of high school students in Dallas, Texas at the world's largest Earth Day Festival, Earth Day TX, on April 22nd. During their presentations they used an interactive SMS text-messaging program, PollEverywhere, allowing students to answer questions being asked by Dr. Hayhoe and Dr. Vanos. The students' answers were displayed on the screens behind the presenter. This allowed the audience to interact in a scientific discussion, rather than just listening to a presentation about climate change.

Dr. Hayhoe's presentation focused on defining climate change, the history, why it's important, and provided ways to help mitigate climate change. She explained that "climate change exacerbates the natural conditions." In an interview with Planet Experts, Dr. Hayhoe explained how climate change has, "huge impacts on our economy, on our water, on our food, on our health, and it's taking the natural pattern and stretching it – making the extremes even more extreme and harder to deal with." Dr. Vanos gave a presentation regarding the effects of climate change on human health, like heat exhaustion, and even death. She also talked about how hot AstroTurf can get on a 100°F day. She went on to explain that the AstroTurf was a whopping 175°F, causing some of the players' shoes to melt on the field. During her talk, Dr. Vanos also showed the audience heat maps of athletes before and after exercise, pointing out that they drastically change. To really get people's attention, Dr. Vanos likes to research climate change and its relevance to children. She stated, "whether the climate is changing or not, air pollution is bad, higher air allergens is bad and higher heat is bad," all effects that can damage the health of young children.

In Texas, this type of discussion, especially for students, can help get the message across, that climate change is real and it is happening, with or without you. The work that Dr. Katharine Hayhoe and Dr. Jennifer Vanos do on a day to day basis is very important to this message as well, but perhaps more discussions at events and festivals that engage young students on issues relating to health and the environment can spark even more curiosity and bring the topic down to a personal level, and not a political level.

Dr. Patricia Solis



Dr. Patricia Solis received her Bachelor of Science in Physics and a Bachelor of Arts in German in 1994 from Kansas State University. She received her Masters of Arts degree in Geography from Kansas State University in 1996, and her Ph.D. in Geography from the University of Iowa in 2002 where she was a Presidential Fellow. At Texas Tech University, Patricia is a Senior Research Associate for the Office of the Vice President for Research, a Research Associate Professor of Geography in the Department of Geosciences, and an Adjunct Associate Professor in the Climate Science Center. Dr. Solis took the lead on a new program called *Youth Mappers* this year at Texas Tech University that received a \$1 million grant from USAID. The *Youth Mappers* program is a global community of university students, faculty, and scholars who create and use open



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geospatial data to help countries that have developmental needs and challenges worldwide. Within her projects, Dr. Solis has designed and implemented programmatic activities that utilize research for broader social impacts, particularly with respect to broadening participation in higher education for women and minorities.



- Our last interactive panel seminar of the semester takes place on May 3rd at noon in the Experimental Sciences Building, room 120. Three expert panelists, Steve Presley, Samantha Kahl, and Matthew Barnes will present on invasive species with reference to climate science. If you can't make it to the seminar, tune in live by going to YouTube and type in "CSC Live Seminar on Invasive Species at TTU."
- Our next Science By The Glass will be held on May 10th, 6PM, at the Fox & Hound on 82nd St. near Quaker. Dr. Jennifer Vanos will be speaking on environmental heat exposure and children. This will be our last Science By The Glass so you won't want to miss out!
- This month the Climate Science Center has been interviewing undergraduate students about their opinions on climate change. The questions and answers will be compiled into a video to be released in May. Stay tuned for more information.

The Great Barrier Reef is in Trouble

Marine scientists have been devastated by how much coral bleaching is going on in the Great Barrier Reef. The reef is undergoing its most severe coral bleaching on record. When ocean temperatures rise, coral reefs become stressed, and they respond by expelling the algae that lives within them. When the corals die, not only do we lose many marine species, but also a valuable food source. Tourism to the Great Barrier Reef is worth \$5 billion annually and accounts for 70,000 jobs. Scientists have found that 93 percent of the Great Barrier Reef is now bleached.



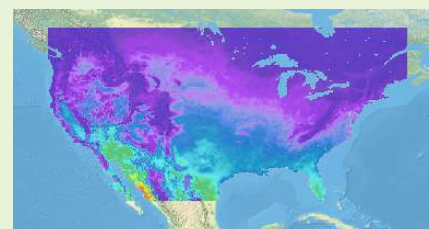
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Other News

- Our next video from our *Videos for Science* series has been released. [Click here](#) to watch our third video featuring Kelly Neely, who is a graduate teaching assistant in the atmospheric science group working under Dr. Jennifer Vanos. Kelly's research focuses on assessing the impacts of climate on two mosquitoes that transmit Chikungunya Virus and Dengue Fever in Brownsville, Texas.
- The *Youth Mappers* program held a mapathon event on April 1st where more than 17,000 buildings and 5,000 km of roads were added to OpenStreetMap for a project on health prevention in Mozambique. In April alone they had 300 contributors to open spatial data across 13 universities and 4 countries that created half a million edits. [Click here](#) to learn more about *Youth Mappers*.
- We would like to recognize Lexie Herdt, who is a graduate teaching assistant affiliated with the Climate Science Center. She has received a grant from the National Science Foundation to conduct research in Seoul, South Korea. She will be doing research on urban micro-climate monitoring by identifying and investigating fine-scale heat-health relationships in Gingham district of Seoul, South Korea.

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>



April Seminar Panelists

Three expert panelists discussed their research of energy with regards to climate science. Robert Forbis explained that the fossil fuel industry is fading while the solar industry is rising. Robert discussed strengths of solar energy, including, low cost, predictability, and an expanded market. In order to help mitigate climate change, there needs to be a transition from oil and gas to solar and other renewable energy sources. Anne Epstein focused on the health risks due to volatile organic material from oil and gas wells. She presented a number of studies that showed significant health risks for children and adults who live close to oil and gas wells. Steve Moon discussed his role with Lubbock Power and Light, focusing on the energy efficiency realm. Steve presented three ways from the utility standpoint that can help mitigate climate change: increasing awareness, striving for unity, and helping the community reduce their carbon footprint.



(Featured: Robert Forbis, Anne Epstein, and Steve Moon)

