

FEARLESS



A TEXAS TECH PRODUCTION

Season 2 | Episode 4 | In Our Current Climate

(Music)

Reporter: According to a new United Nations report, the devastating impacts of human caused climate change are happening now.

Reporter: Nearly half of humanity is living in the danger zone now. Many ecosystems are at the point of no return now.

Reporter: The evidence is everywhere, burning forests in Argentina, massive floods in Bangladesh, drought in Spain.

Ted Talk: The fact that the number one predictor of whether we agree that climate is changing, humans are responsible, the impacts are increasingly serious and even dangerous has nothing to do with how much we know about science or even how smart we are... but simply where we fall on the political spectrum.

Taylor Peters, Host: Cristina, what motivates you about this work?

Cristina Bradatan: Fear. Fear is what motivates me, in a way.

(Music)

Peters: IN THIS EPISODE, WE'RE NAVIGATING A PARTICULARLY DIFFICULT CONVERSATION ABOUT CLIMATE CHANGE... EVEN THE WORDS TEND TO TRIGGER A CERTAIN TENSION. BUT TODAY, I ONLY PLAN TO LAY OUT SCIENCE- ATMOSPHERIC SCIENCE, SOCIAL SCIENCE AND PSYCHOLOGICAL SCIENCE. THIS ISN'T INTENDED TO PURSUADE YOU, ONE WAY OR ANOTHER. INSTEAD, I HOPE TO PROVIDE CONTEXT AND BACKGROUND ON WHAT THESE RESEARCHERS HAVE FOUND. WHAT IT MEANS FOR EACH OF US.

(Music)

(Wind and rain)

Peters: YOU REMEMBER CHRIS WEISS FROM EARLIER THIS SEASON, HE STUDIES WEATHER PATTERNS AS AN ATMOSPHERIC SCIENTIST.

(Thunderstorm)

Chris Weiss, Professor, Atmospheric Science: We get this question about climate change quite a bit. Any time we have an unusual event. It's difficult because you're talking about very specific short-fused event like a tornado and connect it to a big scale and it's difficult. But the number of tornados logged is increasing, but there's a lot more people out there observing these tornados... you have to de-trend the data for those kinds of effects as well.

Weather reports: You see the cell taking a hard right, right now, in Hockley County. If it keeps on its...

Peters: WE CHOSE HIM FOR THIS EPISODE BECAUSE HE DOES HIS WORK IN THE FIELD, LEARNING MORE ABOUT HOW WEATHER PATTERNS ARE CHANGING AND WHY.

Weiss: In terms of the number of tornados, it's not necessarily clear that there's a climatic signal, what is becoming apparent is when and where those tornados are happening. We're also seeing a lot of off-season events. The event in December is a great example, right? The long-track tornado that went from Northeast Arkansas all the way up through central Kentucky...it's tragic. We're not used to talking about significant tornados in December in that part of the country.

News Report: from Friday night's tornados is likely to climb 'north of 70 victims. Severe weather and storms tore through most of the Midwest from Texas to the great lakes.

(Rain and wind)

Weiss: A lot of tornados are occurring outside of the traditional tornado alley, we talked about Dixie Alley a bit ago. There's definitely an eastward and northward movement to the centroid of where these tornados are occurring. That has been happening over many years so, we think, there is a decent shot that has something to do with climate change.

Peters: IN SOME WAYS, WE ARE SEEING WEATHER PATTERNS SHIFT, CHANGE WHAT IS ORDINARY FOR THAT SEASON OR AREA- LIKE THE MELTING ICE CAPS. BUT WE'RE ALSO SEEING SEVERE CONDITIONS BECOME EXTREME IN CERTAIN AREAS.

News Report: 200 scientists from more than 60 countries emphasized that our warming of the planet is unleashing damages at a pace and intensity that many nations won't be able to handle.
Weiss: In a warmed world, the equator is warming some, the poles are warming a lot. So, lots of research going on in this.

Peters: AND AS MORE INFORMATION BECOMES KNOWN ABOUT WHAT THESE PATTERNS MEAN, PEOPLE ARE DEVELOPING THEIR OWN OPINIONS ABOUT IT. A COMMON REBUTTLE TO CERTAIN CLIMATE CHANGE RELATED INFORMATION IS THAT FOR CENTURIES THE EARTH HAS BEEN NATURALLY COOLING AND WARMING ITSELF. THAT WE WILL SEE MOTHER EARTH EVENTUALLY GROW OUT OF THIS PHASE. AND PEOPLE OFTEN TIMES TAKE TO SOCIAL MEDIA TO HAVE THESE KINDS OF POLARIZING CONVERSATIONS.

(Social media notification sounds)

Peters: SOCIAL MEDIA,

(Keyboard typing)

WHERE VOICES ARE AMPLIFIED AND THE LINE OFTEN BLURS BETWEEN TRUTH AND OPINION.

(Social media notification sounds)

Peters: EVEN AS A YOUNG GIRL, ASHELEY LANDRUM WAS CURIOUS. SHE WAS OFTEN CHALLENGED BY HER DAD TO KNOW THE SOURCE OF ALL INFORMATION SHE HEARD AND SHARED... HE WOULD ALWAYS SAY THINGS LIKE 'SAYS WHO?'... SO, SHE LEARNED THAT IF SHE HAD SOMETHING TO SHARE WITH HIM, SHE NEEDED TO NOT ONLY KNOW THE FACTS BUT WHERE THEY CAME FROM, A LESSON SOLIDIFIED WHILE WATCHING THE COLBERT REPORT AS A GRAD STUDENT... THAT WAS MORE THAN 15 YEARS AGO. HE DID A SEGMENT ON THE WORD TRUTHINESS... IT WAS OF COURSE, A COMEDY BIT, IT WAS SARCASTIC... BUT IT RESONATED WITH HER.

Stephen Colbert Report: We are divided by those who think with their mind and those who know with heart...

Peters: NOW, SHE'S A SUCCESSFUL ASSOCIATE PROFESSOR OF SCIENCE COMMUNICATION. SHE'S A MEDIA PSYCHOLOGIST HOUSED WITHIN THE COLLEGE OF MEDIA AND COMMUNICATION FOCUSING HER RESEARCH ON HOW AUDIENCES INTERPRET THE MEDIA.

Asheley Landrum Associate Professor, Science Communication: One of the things that I have studied is how people learn from others as sources of information, which is very much a communication question. It's interesting because we often don't have the background knowledge in any specific field to be able to evaluate the veracity of that information.

Peters: ASHELEY IS SHARP. SHE'S INTELLIGENT AND AN EXCEPTIONAL SPEAKER, HER DELIVERY IS CALCULATED BUT EASY TO DIGEST. SHE IS THE EPITOME OF A GREAT COMMUNICATOR. SHE TELLS US THAT A LOT OF HER RESEARCH EXISTS IN THE SPACE OF TRUSTING OTHERS. ARE THE EXPERTS TRUSTWORTHY, ARE THE OPINIONS OF OTHERS WE KNOW TRUSTWORTHY? HOW DO WE SEE THE LINE?

(Social media influencers)

(Music)

Landrum : How do we stop information from becoming polarized or the environment from becoming polluted with these ideologically entrenched meetings in the first place is one. The second big question, our field is how do we then try to depolarize an issue of science? Understanding all of these pieces eventually helps us answer that bigger question of how do we stop getting these issues of science and policy so politically entangled?

Peters: ASHELEY HAS DONE A LOT OF RESEARCH RELATED TO CONSPIRACY THEORIES AND SOMETHING SHE HAS LEARNED IS THAT PEOPLE HAVE BECOME INCREASINGLY MORE CONCERNED ABOUT BEING TAKEN ADVANTAGE OF. SHE BELIEVES THAT THIS FEAR IS CREATING A SOCIETY OF PEOPLE THAT ARE MORE CYNICAL THAN TRUSTING, EVEN OF PROVEN INFORMATION DELIVERED BY EXPERTS. ASHELEY HAS CONVERSATIONS WITH A LOOOOT OF PEOPLE ABOUT WHAT THEY BELIEVE AND WHY.

Landrum: I think that in some of the surveys that we've done, people have said that they actually trust independent reporters over organizations because they see organizations as having produced content, for example, particularly white men actually in one of the studies that we did, seeing produced content as being too manufactured. It's setting up a specific story. Whereas they see raw footage posted by some random person with an iPhone as being more representative of the truth. But I think people forget that, yes, while organizations may have goals or ideologies, so do individuals. It's not always money that drives people. Ideology is also a pretty big driver.

Peters: THIS IS IMPORTANT... SOCIAL MEDIA EMPOWERS ANY PERSON TO HAVE A PUBLIC VOICE. BUT THE POINT ASHELEY IS MAKING IS A GOOD ONE- CAN WE TRUST THE AVERAGE PERSON TO BE RESPONSIBLE WITH THEIR NARRATIVES? DO WE KNOW THAT THEIR INTENTION IS TO SHARE TRUTH, NOT SIMPLY TO GAIN VIEWS?

Landrum: ...they're mad about it. But they're sharing it to say, "Look at what's going on. This makes me outraged." It gives traffic. It gives more eyes onto things and gives people the sense that this is something that's actually happening out there in the world when it could have been a misunderstanding.

Peters: ASHELEY SAYS THAT IDENTIFYING TRUTHFULNESS IS CRITICAL- KNOWING THAT WHAT YOU SEE ON SOCIAL MEDIA SHOULD BE VIEWED WITH DISCRETION.

(Music)

Peters: I'VE BEEN OFF SOCIAL MEDIA FOR ALMOST TWO YEARS AND THE MOST COMMON QUESTION I GET FROM PEOPLE IS 'HOW DO YOU KNOW WHAT'S GOING ON IN THE WORLD?' IT'S TRUE - SOCIAL MEDIA IS ONE OF THE MOST EFFECTIVE TOOLS IN DELIVERING INFORMATION. IT HAS COMPLETELY TRANSFORMED OUR WORLD, IT HAS BEEN A CATALYST FOR LOTS OF POSITIVE GROWTH, IT HAS HELPED GROW SUCCESSFUL BUSINESSES, CONNECTED LONG LOST FAMILY MEMBERS OR FRIENDS, IT KEEPS YOU IN TUNE WITH THE PEOPLE THAT ARE IMPORTANT. BUT IT CAN ALSO A BREEDING GROUND FOR PERPETUATING MISINFORMATION.

Landrum: Part of depolarizing something is how are people responding to media when they're hearing it? What are the effects of the different sources of information on whether or not they're believing something or are people becoming addicted to cable news? My next door neighbor in my office is studying news addiction. You can perseverate and just watch news after news. What effects does that have on you?

Peters: ASHELEY AND RESEARCHERS LIKE HER HAVE ZEROED IN ON HOW PEOPLE INTERPRET INFORMATION RELATED TO CLIMATE CHANGE BASED ON THEIR POLITICAL OR CULTURAL STANDING. ACTUALLY, CLIMATE SCIENTISTS AND TEXAS TECH PROFESSOR KATHARINE HAYHOE TALKS ABOUT THIS IN A 2019 TED TALK.

Katharine Hayhoe: I ended my talk with a hopeful request for questions and one young man shot his hand up right away. He says 'you're a democrat, aren't you?' 'No, I said I'm Canadian...'
(laughing) Does the thermometer give us a different answer based on if we're liberal or conservative? Of course not.

Peters: KATHARINE AND ASHELEY ARE BOTH PART OF AN INTERDISCIPLINARY GROUP CALLED THE CLIMATE SCIENCE CENTER ALONG WITH PROFESSORS AND RESEARCHERS FROM TEXAS TECH AND OTHER UNIVERSITIES ACROSS THE COUNTRY. CRISTINA BRADATAN IS PART OF IT TOO, SHE'S AN ASSISTANT PROFESSOR OF SOCIOLOGY.

Cristina Bradatan, Professor, Sociology: I only learned while being part of this group, how important it is for the university to have a connection with the community.

Peters: SHE'S CURRENTLY LIVING IN VIRGINIA, COLLABORATING WITH THE US CENSUS BUREAU AND TEACHING CLASSES ONLINE.

Bradatan: Census Bureau is that, let's say it's a heaven for demographers. It's where all the cool stuff, all the cool data are.

Peters: DEMOGRAPHY... THAT'S THE STUDY OF THE CHANGING HUMAN POPULATION. RIGHT NOW, SHE'S LOOKING AT HOW CLIMATE SCIENCE CONTRIBUTES TO CHANGES IN ECONOMY, POPULATION, AND HEALTH. SHE, LIKE ASHELEY, IS FACINATED BY WHY INFORMATION ABOUT THIS TOPIC BECOMES POLITICAL IN THE FIRST PLACE.

Bradatan: There are still many communities who don't accept that there is climate change. Even when there are lots of signs and there are many agricultural communities where they suffer because of this but they don't accept that. Well, what's behind that? How can you help them to understand that is not a political issue, really, it's a fact. It's science, that's it. But how can we do that again, when people don't trust the government, don't trust the authorities?

Peters: CHRISTINA SAYS THAT THERE ARE CERTAIN GROUPS OF PEOPLE WITHIN OUR COUNTRY WHO HAVE A MISTRUST OF THE GOVERNMENT THAT IMPACTS THIER BELIEF IN THIS ISSUE. HER RESEARCH SHOWS THAT CERTAIN LOW-INCOME COMMUNITIES OR COMMUNITIES WITH LOW RESOURCES ARE LESS LIKELY TO BELIEVE IN THE VALIDITY OF CLIMATE CHANGE BECAUSE OF WHERE THAT INFORMATION IS COMING FROM. BUT BEYOND THAT, EVEN IF THEY DID BELIEVE IN CLIMATE CHANGE, THEY DON'T BELIEVE THEY HAVE THE POWER TO DO ANYTHING ABOUT IT.

(Music)

Bradatan: What can they do? What can a small community with low resources can do to adapt to climate change? Where they can access information but also financial resources to adapt to climate change. Then there is all this inequality that intervenes here. Like with communities where there is a lot of financial power, being able to hire companies to help them and so on, but what about the others? What can they do?

Peters: CRISTINA SAYS THIS IS A MAJOR PART OF WHY THE CONVERSATION IS LOPSIDED.

Bradatan: There are strong reasons. There are valid reasons why these people don't trust that there is climate change and we should address that. We should not, just as I said, look down to this communities.

Peters: CRISTINA IS LOOKING SPECIFICALLY AT HOW EVENTS CAUSED BY CLIMATE CHANGE CAN IMPACT OUR HEALTH. SO, LET'S TAKE WEST TEXAS FOR EXAMPLE, IT'S DRY AND HOT. YOU DON'T NEED ME TO TELL YOU THAT...SOME PEOPLE AFFECTIONATELY HAVE REFERRED TO US AS THE DUST COAST, YOU KNOW, LIKE THE EAST COAST AND WEST COAST... BUT IF THOSE PERIODS OF DROUGHT BECOME LONGER, BRINGING MORE DAYS WITH SCORCHING TEMPERATURES AND NO MOISTURE... WHAT COULD THAT DO TO OUR HEALTH?

Bradatan: Drought, what's happening is that basically the air becomes very dry, and that impacts people who have already have existing, pre-existing conditions with asthma and so on. But also people who are older people and children who are more sensitive to these problems, so dry air.

Peters: EARLIER THIS SEASON, WE TALKED ABOUT HOW THIS REGION IS RUNNING OUT OF WATER... AND YOU ALEADY KNOW THIS BUT A BIG PART OF THAT IS DROUGHT.

Weather Report: Record High temperatures are continuing to play into this weekend.

ACCORDING TO THE NATIONAL WEATHER SERVICE YEAR END SUMMARY, 2011 WAS THE WORST DROUGHT ON RECORD-

(Weather reports)

Peters: RAINFALL NUMBERS WERE ALRMING, A MERE 5.87 TOTAL INCHES IN THE CITY LUBBOCK.

(Weather reports about drought)

Peters: IT WAS THE DRYEST YEAR EVER ACROSS THE STATE, TOO... WITH AN AVERAGE OF ONLY 14.8 INCHES. OUR ANIMALS SUFFERED, OUR PEOPLE SUFFERED, OUR CROPS SUFFERED.

Peters: THE NATIONAL WEATHER SERVICE ALSO WARNS THAT BECAUSE OF RAINFALL AND HEAT PROJECTIONS FOR THE SUMMER OF 2022... WE ARE BEARING A STRIKING RESEMBLANCE TO 2011.

Bradatan: If you have more days with extremely high temperatures, people are exhausted, they can't work, there are regulations that say that you can't work if the temperature goes above a certain threshold.

Peters: SHE'S ALSO LOOKING AT CHALLENGES IN IMPOVERISHED COUNTRIES LIKE BANGLADESH AND HONDURAS. SHE SPENDS A LOT OF TIME RESEARCHING IMMIGRATION, TOO. AND HOW CLIMATE CHANGE AFFECTS IT.

Bradatan: What's happening with this new layer of climate change, will more people move from a certain area because, let's say in Honduras, there is a problem with the coffee plantations and people from those areas, they basically are losing their way of living, will they move to, I don't know, the next larger city in Honduras or will they try to come to the United States? Will you see any impact of climate change on migration.

(Music)

Peters: ACCORDING TO A REPORT FILED IN FEBRUARY BY THE U-K, IMPACTS OF CLIMATE CHANGE ARE HERE... AND IN SOME CASES, THE DAMAGE THAT HAS BEEN DONE IS IRREVOCABLE. PEOPLE LIKE ASHELEY, CRISTINA AND CHRIS ARE COMMITTED TO THIS CONVERSATION.

Landrum: I like to talk about the scientific processes being like whittling wood. You just have to keep chipping away at things. It's not that you're going to think one thing and then the totally opposite thing later. It's that you're slowly chipping away to a common understanding of what's going on and the hypothesis space or the possibilities start off really broad and then you start narrowing it in.

Landrum: There's things about perception that is there really a truth or what can be said to be true? But in some more of these more shared understandings, we have to rely on others who are expert in those areas or we just will fall apart as a society. We can't do everything on our own.

(Music)

(Shoes walking down hall)

Peters: ACROSS TOWN, ERIC HEQUET IS KEEPING THINGS IN ORDER. HE'S THE DIRECTOR OF THE FBRI- IT'S THE FIBER AND BIOPOLYMER RESEARCH INSTITUTE. PEOPLE LIKE ERIC ARE KEENLY FOCUSED ON THE THINGS WE'VE TALKED ABOUT TODAY. ISSUES LIKE DROUGHT, SEVERE STORMS OR RISING TEMPERATURES MATTER IN HIS FIELD. HIS RESEARCH FOCUSES ON COTTON PRODUCTION.

(Tractor)

Hequet: Basically around the world, everyone knows about Lubbock.

ERIC AND HIS COLLEAGUES ARE DOING SOME AMAZING THINGS WITH COTTON- FROM THE BEGINNING OF THEIR LIFE AS TINY SEEDS, TO PIONEERING WAYS OF REUSING COTTON WASTE THAT MIGHT HELP SAVE OUR ENVIRONMENT. THAT'S COMING UP NEXT TIME ON FEARLESS...

(Music)

Peters: FEARLESS IS BROUGHT TO YOU BY THE OFFICE OF COMMUNICATIONS AND MARKETING. IT'S HOSTED BY ME, TAYLOR PETERS AND CO-PRODUCED BY ALLISON HIRTH. EDITING AND SOUND DESIGN FROM THOMAS BOYD. FEARLESS IS A TEXAS TECH PRODUCTION – FROM HERE, IT'S POSSIBLE.

(Instrumental Music)

Peters: HEY GUYS, IT'S TAYLOR. LISTEN, WE ARE SO THANKFUL FOR YOUR SUPPORT OF FEARLESS. THANKS FOR LISTENING AND SHARING WITH YOUR FRIENDS! IT HELPS SPREAD THE STORIES OF PEOPLE WHO ARE TRULY DOING LIFE-CHANGING WORK ON OUR CAMPUS. AS ALWAYS, DON'T FORGET TO LIKE, REVIEW AND SUBSCRIBE WHEREVER YOU GET YOUR PODCASTS!

