

Kara Larson:	I'm gonna introduce both of them. Jeff Crowder behind me will be participating in our group discussion afterwards but not presenting, so Buddy who's right behind me—Buddy Stark has a master's in science education from Western Michigan University where he is currently a PhD student in the same field. He's been managing planetariums since 2013, including the Michigan Science Center in Midtown Detroit, Longway Planetarium in Flint, and now manages our very own planetarium at the University of Michigan Museum of Natural History.	
	If you have not been, you have got to see the show because it's really fun. He is a fellow of the Great Lakes Planetarium Association. He's an accomplished woodworker. He regularly works magic with computer programming, I can speak to that, and he cooks when he can find the time. Please welcome Buddy Stark.	
[Applause 00:57 - 01:02]		
Kara Larson:	Jeff Crowder will be joining us for the discussion portions of our program. Jeff holds his BA in sociology and business management from Olivet Nazarene University. He has a master's of divinity and doctorate of ministry from Nazarene Theological Seminary and he's the founding pastor of Chelsea Church of the Nazarene. He's chaplain at Silver Maples of Chelsea Retirement Community, a past school board member of Chelsea District Schools, and he also sits on the board of trustees for Olivet Nazarene University. Jeff likes music, movies, and sports, including, he admits, rooting for a university from that four-letter state to the south of here. We can tease him about that later, please welcome him now. With that, I'm gonna let Buddy take us away. Buddy's gonna do his presentation, and he'll go for about 25 minutes or so. Then we'll take a break where you can discuss things at your tables, and then we'll come back together for the last half hour or so for group discussion. Make sense?	
Interviewee:	Yes.	
Kara Larson:	Awesome. Take it away, Buddy.	
Buddy Stark:	Thank you, Kara. I'm gonna hold this fairly close to my mouth, Madeline, so I think I can already hear a ring. You can probably	



bring me down a little bit. Thank you, first of all, for having me out. As she mentioned, my name's Buddy Stark. I manage the planetarium at the university, and I research specifically climate change skepticism among evangelical leadership. Before I get into my presentation, I also wanna take a moment to thank Dr. Crowder for joining us tonight. He's actually been a part of my research from the beginning.

When you develop a survey like I have, which we're gonna get into, you have to have a pilot survey, and he was very helpful with my pilot survey. I asked him here for a couple of reasons, and he was kind enough to volunteer his time. First, one reason is that when you hear about evangelicals in the media, typically in the news, typically it's around voting blocks and politics and these kinds of things, and that can in some ways paint a one-dimensional picture of this group, which isn't inherently fair, and in a lot of ways not super beneficial. By bringing an actual human being with us to be involved in the discussion, it will round that out a little bit.

Secondly, the reason I asked specifically Dr. Crowder to join us is because I know him to be a very thoughtful person, a very mindful person. As you heard from his list of achievements, he's also very well respected in his community, and so he will be very useful, I suspect, in gaining some insights in our discussion today. Which is not to say that he speaks for all evangelicals, of course, but he is part of the group, and so probably knows things a little bit more intimately than most of us do.

Getting started with the presentation itself, we're gonna open with what's called a positionality statement, then I'm gonna make and defend four claims about my research and this area of research in a larger context, then I'm gonna walk through the specifics of my particular research project, and we're gonna wrap up with some questions that I need to answer in future research, and that will probably be useful discussion topics for today as well.

A positionality statement is very common in social science research. My research is about scientific literacy, so it's considered a social science research. I am studying a group of people, and the problem with that is that any researcher inherently has some kind of relationship with the group of people that they are studying; good, bad, ugly, interpersonal. There is some kind of relationship



there, and so you should probably, as the researcher, make it clear what that relationship is to your reader or your audience so that you, as my audience today, can make your own judgments about possible sources of unconscious bias within me as the researcher.

It's also useful because it offers me an explicit chance to check myself. It's a little bit of a metacognitive practice of, "What are the areas that I might have bias in that I haven't thought about before?"

It's also worth pointing out that in most of my work—as Kara mentioned, most of my actual professional work is managing planetariums, and I don't do this very often. Because on February 8th, I'm giving a talk at Nerd Night for Ann Arbor Public Libraries over at Live about how you should all go see the total eclipse that's coming in April, and not stay here and look as it looks like from Ann Arbor, but actually go see the real thing.

If you would like me to convince you of that, come to that talk, it's gonna be great. At that talk, you're not gonna hear a positionality statement because it would be very inappropriate. I don't need to talk about my personal life in most situations, but because this is my research and I have relationships to these people, it's important that you know a little bit of background from me.

First, I was raised in a devout evangelical household, and by that, I mean that we were in church at a bare minimum three times a week. That was the bare minimum. It was frequently more. My undergraduate degree is from a private evangelical university as well, largely because of the house that I was raised in, and so the first four years of my higher education was taught to me by people that have these same kinds of perspectives. I personally am still a practicing Christian, but I do not currently self-identify as an evangelical, which is not to say that I harbor any ill will toward the group, at least as far as I know.

I do still have—as you can see, I still have personal relationships with a lot of people in this community, many of whom on an individual level, I have a lot of respect for, because if you get to know any group of people, every group of people, it is filled with intelligent, kind, loving people that are coming to their conclusions in as a rational way as any of us do. That is my positionality statement.



Now on to my four claims. The first opening claim is that climate change is real and is primarily caused by human activity. It's worth pointing out that I do not study climate change. I am not an expert in climate change. I imagine that there are probably several people in this room that know more about climate change than I do. I'm comfortable making this claim because we live in a point in history where something called meta-analysis-level research exists not just on climate change, but human-caused climate change. The citation down there at the bottom is Cook et al from 2016. It's from an article called Consensus on Consensus, where they analyzed dozens of different independent research papers that all came—they all came to the conclusion that climate change is happening, and the majority came to the conclusion that human activity was the primary driver for that. They didn't cherry-pick their data. There were some that said we can't tell one way or another, but the important thing is that as a rational person, you see studies like that—and that's just one example—then we come to the conclusion that that's probably the case.

You might, when this slide first came up, find yourself asking the question, "At this point in history, do we really need a citation on climate change is real and primarily human-caused?" If you had that thought, I would, as lightly as I possibly can say it, you might consider whether or not you exist in one of those echo chambers. Which is not to say that that's not a true statement, but the idea that it doesn't need a citation right now, you're gonna see later in this slide deck is not necessarily true. If you think that it doesn't need a citation, then you're probably surrounded by a lot of like-minded people, so echo chambers work both ways. This we can skip past; I've only got so much time, and I've timed it out, and I'm long, so...

Opening claim number two is that evangelicals, and at this point in history, are the only religious group who consistently pole as skeptical of climate change when you compare it to a national average, and this is the consistent constant in my area of research. Even some studies that aren't doing anything religiously—they're just studying climate change writ large, they'll take a moment, there's a paragraph where they're saying, "By the way, this wasn't the point, but the only religious group we found that was skeptical was evangelicals." It just comes up again and again and again.



One example, and I listed four there—my citation manager has a dozen others; that's just a few examples. One of these studies is the Pew survey from 2022, and so I wanna break down this chart a little bit here. The average across the United States, the country, is that 53 percent of people believe that climate change is happening because of human activity. That dark blue bar is really the thing that we care about the most because it's great that people are willing to say that it's happening, but it's due to natural patterns, but there's also a lot less impetus to do anything about it if you think it's just part of the natural world and the way things work normally. What we're really hoping for is that more and more people respond this way.

If we break this down—in some ways this chart's pretty intuitive. In other ways, I think they probably could have done better. This is religiously affiliated versus religiously unaffiliated, and then within that they break that down into Christian and other. I didn't make this chart, so that's not a great practice, but don't come at me, 'cause I didn't make that. Then within Christian, they break it into Protestant and Catholic, and then within Protestant they break it into evangelical, mainline, and historically black.

At a surface level, it looks like religious affiliation is a problem when it comes to believing in human-caused climate change because the religiously unaffiliated poll quite a bit better than the religiously affiliated. That's really only surface level, because if you ignore Christians for a moment, just for just a second here, other religions—which again, they kind of lumped in everyone else. Judaism, Islam, Buddhist, Hindu, you name it, they actually poll a little better than the religiously unaffiliated. It's not much, it's not a big difference, but it's there, so religion writ large is not really a problem or an issue when it comes to believing in climate change, as some people might have you believe.

The issue seems to be Christians at first, but then when you look at Protestants versus Catholics, well Catholics, they poll effectively identical to the national average; within a percentage point, it's the same, so Catholicism doesn't have a big thing either. Seems to be Protestants that are the issue, but then if you look at mainline Protestants, I mean yeah, that's a little bit worse than average, and it is quite a bit worse than the religiously unaffiliated, but it's still



not too far a shot. It's only when you get down to evangelicals that you see that there is a huge difference between this and the average. This group here is actually what's bringing down the Protestant average, which is what's bringing down the Christian average, nationally speaking.

Opening claim number three is that political views don't fully explain this trend. One of the really common things—again, probably because of what we hear on the news and things, is that we're probably conflating evangelical views with political conservativism, 'cause it's no secret that the number one predictor for climate change skepticism is political conservativism. It's an order of magnitude above anything else, but it doesn't really explain what we actually see.

First of all, again, this group, yes, is more—there's no denying, I'm not trying to pretend like it's not—is more conservative than the national average, but it's by no means homogenous. This was just last year, 56 percent of evangelicals polled as Republican, 28 as Democrat, and 16 percent as having no particularly in one way or the other. If someone handed you a bowl of soup and told you it was vegetarian because 56 percent of the ingredients were vegetarian, you would laugh at them, but we do the same thing when it comes to evangelicals; 56 percent are Republicans, so the group is Republican. That's, again, not inherently a very fair thing.

When it comes to my research—this is Republicans from a Pew research across the country, all Republicans. Republicans poll at about 25 percent or so believing that human activity causes climate change, a little over 40 percent believe that natural patterns cause climate change, and then you can see the rest from there. Now, my survey has a sample size of just under 1,000, it's about 940 or so respondents.

I specifically asked evangelical leadership, which we're getting to in just a little bit here, the same question that was asked on that Pew survey, and those that selected Republican and also were evangelical leaders in my survey responded like this, and it's quite a bit lower. It's very statistically significant; it's peas less than 0.001. Clearly, there's a difference here and there's a difference here. If it was just the fact that they were Republican, and if you were comparing apples to apples, Republicans with evangelical



Republicans, you would expect something very similar, and that's not what we see.

It gets even more interesting when you look at evangelical Democrats, because again, those do exist. You wouldn't believe it if you just listened to the news, but it's true. Again, the dark blue bar here is Democrats across the country writ large, all of them without separating them by group, and it's a little over 75 percent is willing to say that human activity causes climate change. Within my sample, over 95 percent of evangelical Democrats made that same claim and not a single response said that there was no evidence for it.

If you look at the divide between Republicans and Democrats, it's definitely there. If you look at the divide between evangelical Republicans and evangelical Democrats, it's actually wider than the national average of a divide. There is more of a divide within this demographic than there is in most of the country, which we can all agree is pretty divided to start with.

My fourth opening claim for this talk is that we need to care about making meaningful progress with this group on this topic, and this is the only value statement that I'm making in my claims. A value statement is simply a fancy way of saying it's my opinion; I don't have anything to back this up. When I go to conferences, I frequently—it's usually the same three or four people, but I have arguments, genuine arguments, with these people who believe—they're very passionate about the fact that climate change is real and that humans are causing it, and we need to do something about it.

When I start talking about my research in this area, they say that we should leave these people behind, and these are education professionals. Luckily, this is not the majority opinion, but they do exist. They say that the evidence is there, we've tried to make it as clear as we can, we've been talking about it for decades. If these people are not willing to admit the reality that this is happening, we need to just do something anyway, and if we lived in a monarchy, I would be right there with you. The reality, of course, is that we live in a democracy, and these people vote, and they vote people into positions of power, and they drive legislation. The best thing we can do for all of us is to find ways to make meaningful



progress with the groups who don't think climate change is worth talking about.

As I mentioned, I personally know a lot of evangelical ministers, and as I was talking to them, I came to this sort of anecdotal idea that—when I was talking to ministers who are typically more educated than most people, most of the public, they were much more understanding and much more on board with the idea that humans were causing climate change, and it was an issue. They also said to me in these conversations that, "If I talk about these things from the pulpit, a few things happen. First of all, worst case scenario, every four years I come up for a vote with my congregation and if they all hate me, I'm out of a job and I'm not feeding my family anymore.

That's worst-case scenario, but even if it's not that bad, If I upset someone from the pulpit because of something I say that is not based in spirituality—I am a spiritual leader. I am trying to walk these people in their faith, and if it's not from the perspective of these ministers, a spiritual issue and I upset people and they leave my congregation, what good am I doing them? Now they're not listening to me about anything. They're not in my—I don't have their ear at all and so I have to be very careful about these kinds of things."

I wondered, "How common is this?" Ministers who are a lot more educated than most folks—again, just the general public is what I mean by that—are there a lot of them that are in that same situation where they understand this issue, but they don't feel like they're in a position where they can talk about it?

We developed a survey. Those three words are the most painful part of this entire presentation because the amount of work it takes to develop a survey, summing it up as develop a survey is heartbreaking to me, but we did. Then we collected a little over 20,000 emails for evangelical ministers and we also added in full-time professors because we realized what we really care about is the leadership within this group. We defined leadership as anyone in a position of authority that regularly has a platform to talk to this community about various issues. Full-time professors also seem to fit that bill.



We emailed that out to those 22,000 and something emails, and we got about 1,400 responses back, which at first you might think is pretty dismal, but it's actually what you expect with an online email survey. You expect between 5 and 8 percent, so that's pretty typical. Then we analyzed the results that we got, and the short answer is no, the ministers do not respond any differently than the larger demographic, which is heartbreaking for me, but that's what we found.

This is a 2015 survey of evangelicals as the entire demographic. I know it's a little small, but the part of that pie chart you care about is the blue part. That's the part that says human activity is causing climate change. This is the same Pew survey from 2022, again, all evangelicals, not just ministers. The bottom three are from my survey, and you can see that the minister's slice of this—this is the minister's response here, is—it's a little bit different, but it's effectively the same as the general demographic.

The big standout it turned out, as you can see, were professors, and it's worth pointing out that these are not science professors. I collected every full-time professor email that I could find when I did my research, and the majority of them were theology professors, and there's literature professors, music professors, education professors, you name it. Of course, some of them are science professors, but the majority are not. It's very interesting that these people respond so much differently than the rest of this demographic.

We also found that gender, actually, for us was the most consistent factor, with female leaders being less likely to be skeptical than males. There is a possibility that this is a conflation, because we also looked at it and realized that there's not a whole lot of female ministers. They do exist, but there's not very many. There is a pretty good chunk—about half of the professors were female professors and so this might be a conflation with—it might not have anything to do with gender, it might be more about the fact that there are more female professors. We still have to untangle that.

Age was another significant factor with younger leaders under 50 being less likely to be skeptical than older leaders. This is another thing that kind of bounces back and forth in the literature, with



some people finding that age is important and others not. Just last week, Dr. Crowder sent me another study that had a pretty good sample size that showed that Gen Z evangelicals were super on board with climate change, and by that, of course, they're not gung-ho about it. They understand that it's a problem and that humans are the primary driving factor, which—that might be the case, again, I found some evidence for that, too, which, to me, counterintuitively, is a little bit depressing.

It's great on the one hand that, in the future, this might be less of a politicized thing because a lot of those Gen Z evangelicals still would consider themselves Republican, but they don't politicize this issue, which is a great thing. The reason it's a little depressing to people like me is because there is a faction of thought within science education as a group, not just this particular area, but science education, that people, humans, our species, doesn't actually—as a large group, doesn't actually change their minds ever. The only reason that change ever happens is because old people die, and young people replace them with new ideas. There is evidence to suggest that that might be the case, but I personally find that super disheartening so I always hope against that, but it might be.

Other factors, so there are—one of the reasons I picked this instead of evolution or other issues that come up with regard to science literacy is because, to me, it wasn't super clear that there was any scripture that you could point to that said climate change isn't happening. Which, depending on how you interpret certain scriptures, is the case with things like evolution. Again, you can argue about whether or not that's appropriate to interpret them that way, but they can point to that. It doesn't seem clear that you can do that with climate change, but it does still come up.

There are some areas of scripture which talk about how humans have dominion over nature and that we're supposed to use it for the benefit of mankind, and if you take that—if you focus on that scripture, those people tend to be more skeptical of climate change; they don't feel like it's an important thing. There are other areas of scripture that talk about how humans are supposed to be stewards of the natural world around us, and if you focus on those scripture— people who focus on those tend to be more—they



understand that climate change is an issue that we need to tackle, so that still might come up.

Another thing that I found—because as a part of the survey that we did—again, we got a little over 1000 responses, and I offered the possibility to write in comments 'cause I wanted to know what they thought. I ended up getting over 200 pages of single-spaced comments that I have to go through now, so that's my next paper. I'm not done with that, but one of the things that has come up a lot with evangelical ministers is—I had a question asking about how often they believed God manipulated the natural world, things like miracles and things.

A lot of writings came in with that question about how the question didn't make sense foundationally because God, moment by moment, literally holds the world together, and so every single moment he is directly interacting and intervening with the world, and this is a very literal belief that a lot of these people have. A question is, if that's how you view reality, then do you take things like climate change seriously? Because God has such fine-grained control over the world that we're in, maybe climate change can't really be an existential problem, so that's a possibility that I need to look into.

Now the questions, some discussion questions for today—given the things that we've heard so far, what do you think informs, or what might inform opinions among these evangelicals? Do you think there might be a scriptural basis? Could dominion ideas come up? The nature of reality. I also haven't been able to get into a lot of other things like end time studies or trust in sources. There's a lot of evidence to suggest that evangelicals trust their local ministers on scientific issues more than they trust scientists, so how does that come into play?

Then finally, the big obvious question is, what is it about the lived experience in professors in this community that makes them so unique in this particular demographic? It's worth pointing out that the ministers in my survey had—over 85 percent of them had at least a master's degree, with many of them having a doctorate, so it's not just more education. A lot of these people are very educated people. If it's education at all, it's gotta be the specific type and the way in which you go about that education, so let's try and be



	specific when we have those kinds of conversations. That's what I've got. I'll turn it back over to Kara.
Kara Larson:	Thank you, Buddy.
[Applause 24:28 - 24	:33]
Kara Larson:	That was awesome. While I was listening to you, I was thinking I've had experience with people in my life with religious views of climate change, and I'm sure all of you have had experience with that too. Right now, we're gonna take a break for a little while, let you discuss some of that experience, discuss these questions, and we'll come back together in about 25 minutes or so after you've ordered another drink from our wonderful servers, and we'll have a group discussion. Make sense? Right on. We'll see you then.
Buddy Stark:	There was a question I should probably explain. What is dominion ideas? That goes back to that scripture about how humans have dominion over the natural world. We've been given that as a right from God, and we should use that for the betterment of mankind. That's what I mean when I say dominion ideas.
Kara Larson:	I thought that the conversations were particularly animated this evening, so thank you for your animated discussion. We're gonna come back together and have a group discussion right now. Does anybody have a question, comment, thought, experience they would like to share?
Jeff Crowder:	Buddy, you mentioned in your slides at one point about making meaningful progress on this topic. I just wonder what the conversations around the table were about making meaningful progress on the subject.
Kara Larson:	What would that mean? Meaningful progress.
Audience Member 1:	Admitting that it exists.
Interviewee 4:	[Unintelligible 26:20] progress.
Kara Larson:	That what exists?



Audience Member 1:	The climate change is in fact a fact and it's anthropomorphic and it does exist.
Kara Larson:	That's what meaningful progress might look like.
Audience Member 2:	My mom is an evangelical practicer who highly believes that the human's job is to bring about the end of the world. That we're supposed to light the candle at both ends and use up the resources that we have at our disposal with fervor. Is this something you've come across in your research?
Kara Larson:	That reminds me of Stalinists on the left with where you're supposed to bring about end times capitalism.
Buddy Stark:	Specifically speeding it up is new to me. I do know that a common thing that does come up in this area is people will say, "We are in the end times; it's close anyway. Before climate change becomes reality, the apocalypse will happen before that, so there's no reason to worry about it." It's surprising that someone is actively trying to work towards that, but yeah, I'd be interested to talk about that and see how common that is in those circles.
Kara Larson:	No, to you.
Buddy Stark:	Oh, to me? Oh, I was looking for a way out. I told you I was Ohio State fan, I figured that was the most controversial thing I'd have to say tonight. I've heard people talk about it's all gonna burn anyway, as if that's a reason for us to not be good stewards or to not have the long view and goal. That's a very different theological word, eschatological vision—the vision of the end. Because other evangelicals or other people of faith—speaking specifically <i>[unintelligible 28:20]</i> in the Christian family, but it's not unique to Christians—would talk about new heavens and new earth, and so there's not just the image of, "Get out of here and go somewhere else", so that would be a—I think that might be a minority view, even within the evangelical family, but yeah, I don't know.
Kara Larson:	Are there thoughts, questions?
Audience Member 2:	I guess, fundamentally why would they wanna have that view? Why is it important? I mean, to understand fundamentally what's going on, but why? Why would they care one way or the other?



Are they being told or do they...Why? I don't understand why it's so important to believe that.

Buddy Stark:I think this evening for me may be more questions than answers, is
that okay? 'Cause education is often that way. We often walk with
more questions than answers. We talked this evening at our table a
little bit about how there are a number of issues intertwined in this.
We can talk theology, we could talk politics, we could talk media.
You talked about sources, trust in source, what is the source? You
mentioned at one point that there are certain lay people who really
listen to their clergy. This clergy will say, "It's hard to compete
when your people listen to a particular news source or news station
12 hours a day, 7 days a week, and I get maybe an hour or 45
minutes a week." That's another thought.

I had a BBC article, I think from 2022, and they talked about, "How do you make progress with a climate denier?" They had three things that they suggested, and they said first of all—where is that note at? I won't give it to you in the order, but they mentioned as much as you can affirm that person's worldview. Now you can't go the whole way on some of the worldviews you experience, but as much as you can, affirm their worldview. Let's see here...Speak in language they would understand and try not to talk down 'cause nobody likes to be talked down to.

I'll mention another one that we discussed at our table. When I have conversations with people who are climate deniers, oftentimes I'll try and take a bite-sized piece. For instance, people around here are familiar with the water in Flint. We know the story of Flint water and how family and friends were having to buy bottled water at the store rather than turn on the tap and drink it. If you think humans don't have any kind of effect on the world, climate denier, you can say, "Well, what about that?" You begin maybe sometimes with a very small piece of, "What are we doing to our water, to our land, to our air?" You maybe can't go the whole way with that person, they're not ready to take the whole journey in one conversation, but maybe you start there.

I'll also mention, I think what you're doing tonight is really important; conversations with people, neighbors, friends, is vital. I think that's part of the way progress has to happen. We have to be willing to sit down with people that sometimes we think are a little



	crazy or a little dangerous or a little—whatever the word is. You mentioned echo chambers, and we're all familiar with that concept. Staying in ours won't change anything.
Kara Larson:	Thank you. Any other questions, thoughts, experiences you wanna share?
Audience Member 3:	Quick question, would this situation be what it is if the evidence for it was more competitive or compelling?
Buddy Stark:	We have to define compelling there, because on the one hand, as I mentioned, there's meta-analysis to say that this is definitely the case. If you're willing to really dig into the data that's there, it's very compelling, but I suspect that what you mean is more opaque or easier to see. 'Cause one thing that has recently been—is similar to the Flint water thing—I was talking to my wife about this sort of issue, and we thought, "How do you actually make progress?" We thought, "What about oil spills?" No one denies that oil spills are human-caused and that it's a big problem and we dump this black sludge in the water, and we cause an issue locally. Because it's just there, you can see an oil spill, and there's helicopter cameras and all this stuff, but when we're talking about climate change, there's nothing to sort of see. It's a very gradual change and there's no fire all around us, and so that is probably part of the problem. I think if it was more, let's say, obvious, then, yeah, we wouldn't be having these conversations.
Jeff Crowder:	Your question was, if the evidence was more compelling, would it be—how was the end of the question?
Audience Member 3:	Would that change the current position of the population for and against?
Jeff Crowder:	I know a lot of people I wanna say no. I feel like there's a significant chunk of people who have found the voices they want to listen to and that's the end of the discussion for them.
Kara Larson:	Thank you.
Buddy Stark:	That's encouraging.



Audience Member 4:	Mine's a question you probably already answered, but in the paper you handed out there's a mention of creation care, which to me means environmental protections and taking care of our planet. Certainly, if people just looked at doing that, that would do a long ways towards climate change control without actually talking about it. Why isn't that more popular with this skeptical group?
Buddy Stark:	That did gain a lot of popularity in the early 2000s, this creation care movement, around the time that Al Gore blew up with the inconvenient truth stuff. There was a period—if you look in the literature around evangelicals and their opinions about climate change, there was a real period of hope where we saw a big change, but then what happened—and we're going into some details that I didn't wanna talk about tonight, but we're gonna do it—what happened is that certain lobbying groups saw that that was the case, that that was happening, and they spent a lot of money pushing back against that within this specific demographic to make sure that they voted the way that they wanted them to vote. They really made a deliberate effort to squash what they called the greening of evangelicals, this idea of creation care.
Interviewee:	[Unintelligible 35:41].
Buddy Stark:	Because they had their own interests in mind, yeah, oil companies and things.
Buddy Stark:	I will say that this is one place I have some encouragement. As you mentioned earlier, I sent you an article and I've seen some groups that have formed in the last decade or so—one's called Young Evangelicals for Climate Action, started in 2012. Their spokesperson, Tori Goebel, was asked, "How has the conversation changed in the last 10 years?" She said, "When I talk to college students and church groups about the theology of creation care and the issue of climate change, the questions are about how to respond. What are good policies to support?" She said, "I feel like I'm seeing that more and more."
	I'll give you two stories anecdotally. A pastor in Chelsea, and in the last couple of years, my youth group has had two young people who have graduated out of our youth group and gone into environmental sciences, and so we're encouraged about that. One



	of them, she and I are having conversations recently about, "Where can I take my Styrofoam?" That's pretty practical.
	Let me give you the other side of the story, I was talking to her mom one day, and her mom was almost apologetic that that's the field she's in. Somehow, there was some kind of—and I haven't had a chance to pursue this, but there's some kind of a faith thing—she almost feels guilty because, ideologically, this is not supposed to be the area we're in, which I don't get. That's kind of the two different pieces or two different sides of what we're looking at.
Kara Larson:	I'll just add to that that. In about 2009, I think, I worked with an evangelical church in Ann Arbor to do some programs on both this idea of creation care and about evolution as well and climate change. The church members were very surprised to hear the encouragement for intellectual curiosity in these areas from their pastor. I think that was very important for them to not just hear it from the scientific community, but also from their pastor, so I'll just say that I was very lucky to have a great person to work with. I got you next.
Audience Member 5:	You were saying that fossil fuel lobbyists had specifically targeted evangelical groups and tried to separate the ideas of evangelical Christianity from environmentalism, do either of you, or does anyone have more information about how that happened or how that was done? What kind of education was targeted or what kind of media was targeted?
Buddy Stark:	What I've seen was that there was a lot of push in radio. There were certain radio personalities that were very well listened to and very well thought of within the community. They were very intentional about getting them on board with anti-climate change ideas and then making sure that they pushed that very hard, so they were hearing it very consistently from things they were already listening to.
Audience Member 6:	I have another group that I'm thinking about that is a real concern to me too. It's not a religious group, but it's basically the people that are perfectly aware that there is climate change that's going on but the question they ask themselves, "What kind of change do I



	have to make in my lifestyle? I am not ready to make any kind of a change in my lifestyle." What do we do about those people?
Kara Larson:	Independent spirit in American politics. Any thoughts either of you?
Buddy Stark:	I'm not an expert in this area, but my thinking oftentimes is one crappy good step is better than no step at all. That's <i>[unintelligible 39:57]</i> thought.
<i>Audience Member 7:</i>	I grew up with having born-again Christians identified with evangelicalism and I was wondering what part indoctrination carries on with this by compared to other religions?
Jeff Crowder:	Say more.
<i>Audience Member 7:</i>	You could think that if it's your own free choice to find a religion, become baptized, you're maybe an adult besides being indoctrinated into a religion that might cause you to ask questions further in the future. Maybe once you find a meaning, you really grasp onto that. Does the history of the religion play a part in where it's at and how it's formed have to do with the mindset around the people that find themselves gravitating towards it?
Buddy Stark:	I think you're raising some really good questions, and I won't answer that directly, but I'll lay a question or an analysis next to that. My undergrad training is in sociology, so a lot of my thinking is that way; us as groups of people. There are massive changes right now in structures and organizations, including religious, and almost everything's political. It seems like we've all stayed in those camps, which suggests to me that this is actually a moment in our culture where there's an opportunity. It doesn't answer your question directly.
<i>Audience Member</i> 8:	One thing that I've been noticing in the last few years is—ever since I was probably in high school or even middle school, I feel like I've been able to observe climate change happening. I'm from Northern California. The fires have been increasing, absolutely, since I was a kid. It's a very clear change, and even disregarding all of the very important and well-done scientific evidence, it seems like you can—as a person just living in the world, it feels very obvious that this is happening, and I've had conversations with



	people since moving to Michigan that it feels like there's significantly less snow than in the past. That's something that I think people can observe. My question is, apart from the science question, how do people see those changes if they don't see them as the climate changing? How do you respond to that?
Buddy Stark:	I think effectively what happens is that we are very good at rationalizing what we already expect and what we believe. We rationalize it into the world that we're seeing. You can say that fires are worse and worse, but if you've had fires your whole life and you don't think climate change is a thing—maybe this is a particularly bad fire, but is that really related to climate change, or has it just happened to be a bad fire? I'm not saying that's good justification, but I think that's what people do. Those are the mental hoops that people jump through, and we all do it to some degree.
	This is something that comes up in planetarium—you've all seen the full moon before. What would it take to cover the full moon in the sky in your mind right now? How big of a thing would you have to—You've seen the full moon a lot. You've seen it a lot. We've all seen this dozens and hundreds of times, and it surprises a lot of people to learn that it takes your thumb—really your pinky actually, but your thumb will cover a big full moon in the sky. We can remember things in ways that are very inaccurate at times and not actually reflective of reality.
Jeff Crowder:	I don't know if it was yours or in the article I sent you, but a significant number of evangelicals believe the climate is getting—the earth is warming, but they're not convinced that it is caused by people. My grass stays greener later and later in the year. I used to stop mowing in, I don't know, September and now it's November and it feels like—we are good at making the information that we get fall in line with whatever our world view is. Unfortunately, too often it's, "Oh yeah, we're not causing this, it's just—we couldn't cause this."
Audience Member 9:	Buddy, I have a question for you. What is different about the professor's lived experiences that makes them less skeptical? What's your answer?
Buddy Stark:	I haven't explored this fully yet, so this is my initial interpretation. There are two things that seem to me likely. One is that while



	ministers are very well educated—again, 85 percent of masters, it was like 40 some have a doctorate of some kind. A lot of those—a good chunk of those degrees are coming from theological seminaries, so you can ask the question, is it the same type of education, because it's not necessarily a liberal arts education, so that might be a factor.
	Another factor that has been suggested to be by my committee, which is—thank goodness I have these incredibly smart people, they make me look really good—is that it could be that ministers are talking to the same 50 to 100 people week after week. It's the same people, so you are in some ways naturally in your own insulated bubble; it's the same voices every single week. Whereas professors, every semester they get a whole new group of students, and this new group of students has diverse perspectives that this professor is not used to, and so it could be that that experience of having lots and lots and lots of recurring different perspectives allows them to be more adaptive than most people are.
Kara Larson:	It must be professors who came up with that idea.
Audience Member 10	: I'm trying to do this without feedback. I was just wondering, is there a socioeconomic aspect of this to this as well?
Buddy Stark:	That was something that another table asked, and to be honest, I don't have a good answer because I do believe we collected some socioeconomic information, but just frankly, I didn't think to analyze that about whether or not that made a difference. Yeah, I should look into that, but I'm not sure.
Jeff Crowder:	Curious of what is your thought about that? You wanna say anything more? I'm curious to know what you might think.
Audience Member 10	2: I'm just wondering if you're in a socioeconomic group where you're just trying to get by, trying to make ends meet, you're not thinking about things larger in the greater area around you or climate is kind of like the last thing—and so I'm just wondering if this is an issue in a group that frankly has more mental capital to put into running away from it.
Jeff Crowder:	This kind of combines that question with the question that was asked a few moments ago about what do you do when you see the



	evidence? I don't know if you ever like to study people who think differently than you.
Audience Member:	Mm-hmm.
Jeff Crowder:	Do you like to, really? No, you don't. I don't, but I do. I listen to news stations for as long as I can to think what are my people listening to, and then I go turn it off and vomit. Anyway, if you're interested in catching somebody who has thought some of these things through and is gonna draw a very different conclusion from you, check out Answers in Genesis.
	By the way, I go back to the very first statement, evangelicals are not monolithic, so me recommending this is not saying I endorse, but here's somebody who's thought things out and somehow come to the conclusion, "The planet is warming, but it's not caused by people." This is somebody who's not uneducated and—so if you wanna see what's out there, how are people actually thinking this through, they're the ones, by the way, that—well, I'll stop.
Kara Larson:	This is the first museum program ever to have that recommended as a source.
Jeff Crowdfer:	I didn't recommend it <i>[laughter]</i> .
Kara Larson:	I'm kidding you. A few years ago, maybe 10 years ago, actually, we had a science communication fellow in our program who studied decision making with people who didn't accept scientific theories and consensus. She studied things like vaccine hesitancy, problems in accepting evolution and climate change and other sort of hot topic issues, political issues. The first thing I said was, "I'm a science educator. I really wanna know the answer to these questions. How do you convince people what actually moves the needle? What does your research say?" She said, "First off, nothing really works."
	Secondly, the only thing that works, some, that she had found was that if you ask people, "If what you think is true is true, what other things would you expect to find in the world? Let's say you're right. Let's affirm your worldview. Let's say you're right about this. What would the consequences be if that were true", and then help them look at the data and see if that indeed is true. Obviously, there



_	
	could be confirmation bias. I'm interested in both of your thinking on whether that would be useful within the evangelical community.
Buddy Stark:	I think in science education and the theory of planned behavior and these other ideas, in general, it's almost always a positive thing to, as Jeff was saying, affirm as much as you can about what they believe. Because if they don't feel like you're hearing them out, then they're not going to hear you out, and that's just a natural—the way that people approach conversations. First, hear them out and take them seriously as much as you can, and then ask them questions about—you can ask them questions about, "If this is your stance, if you believe in X, then how do you handle this other situation? How do you explain this over here?", but you do that in a respectful and a kind way.
Jeff Crowder:	I think that's one tool in our toolbox. We need a lot of 'em.
Kara Larson:	Thank you. Any other thoughts or experiences to share?
Audience Member 11:	I'm wondering that in general, you could call the evangelicals a patriarchal kind of system, and most of the rules and laws and direction comes top down. If we're talking about lobbying and influence, then it's almost impossible to change any minds because the minds at the bottom are getting their direction from the person at the top or the structure at the top that is being directed by the lobbyists, so it almost feels impossible.
Jeff Crowder:	I will say back to the analogy of tools in the toolbox, I'll give my two recent graduates from our youth group. My guess is as they continue to talk to their parents, their parents will change their mind. Think about other big social issues we've experienced. How does change happen? Does it come top down? Sometimes, but more often it's, "I thought I knew how I stood on this, and then I met someone who, LGBTQ", or whatever the issue is, and now all of a sudden, "Oh, I'm willing to hear part of this discussion I wasn't willing to hear 'cause I really thought I knew I'd settled on what was my view."
	I think there is some hope. Let me give you another anecdotal thing. Kara mentioned at the beginning my two roles currently, one is in a congregation or parish. The other, though, is a chaplain at a retirement community—Silver Maples. Anybody know Silver



Maples? Silver Maples is a place that has a disproportionately high number of former professors. My Nazarene congregation is center right, my Silver Maples congregation is center—at least center left. It's fascinating to watch and go back and forth. I actually make the—I run a little circuit—they used to have—Wesley, used to have Methodist pastors who'd ride a horse, and they catch various congregations; they'd be at this church on this Sunday, and that church at that Sunday.

I do a three-mile run between these two congregations Sunday morning, and it's fascinating to watch these 95 and 100-year-old progressives talk about issues like climate change. They give me encouragement and hope sometimes, as well as my high school kids who say, "I'm going into environmental science. How do we get rid of our Styrofoam? How do we deal with these things", so I understand your statement. I'm a part of a book club. We recently read Ministry for the Future by Kim Stanley Robinson. Anybody read that? It's a apocalyptic environmental thing. What happens when we start baking? Not flour, but I mean—we're frying. That's another food thing, anyway.

It was interesting because my book club, again, tends to be center-left, and after we were done, we were talking about how do changes happen, and we had the conversation about who's in your life that you talk to about this, and as we went on,

To use the evangelical term with you guys, you guys need to be missionaries, evangelists. You've got to figure out a way to get out into other places. Whether it's Rotary Club or Chamber of Commerce or go to a church or somehow get into places where you're going to meet other people and develop relationships with them. Then maybe one story at a time, as well as the overarching narratives that we're talking about here tonight, maybe those things do a little bit of work.

Kara Larson: That's awesome. Thank you. They say the revolution goes from hand to hand and heart to heart, so we'll take that. We have time maybe for one or two more questions, but I wanna take this opportunity to remind you that there are little blue pieces of paper on your tables. They are evaluations. That is where you can suggest the next conversation that we should be having in this space. That is where you do things like tell me that you really want



	a QR code to make donations to science cafes on your table, which you told me last time.
	I put QR codes on your table so you can donate without having to carry cash with you. Maybe you'll do that, hint, hint, or maybe you'll fill up our donation box over there or maybe you have a really good idea for the next Science Cafe. In any case, please use the little yellow pencils to write on the little blue pieces of paper. Yes, it's not a coincidence that they're those two colors. Do you have any other questions?
[Pause 56:28 - 56:33]]
Audience Member:	Thank you very much.
Kara Larson:	Oh, of course. I'm gonna go here and [applause]—
Audience Member 12	I know this is not where either of you focus, but I'm curious if you've heard or know anything about this. Is the climate skepticism a uniquely American evangelical trend, or is it true in other countries also?
Male Voice:	No idea.
Buddy Stark:	It is not uniquely American. Australia has the same problem with evangelicals, climate change deniers, that we do. To some degree, Western Europe, like the United Kingdom, also has it. It's a little bit less, but it's there as well.
Audience Member 13	This is more of a personal question, so feel free to respectfully decline. We've talked a lot about echo chambers today. I was wondering if you feel like you've grown up in an echo chamber, and if so, what you did to escape that?
Buddy Stark:	My response is gonna be nothing particularly profound, because I would say as a kid, absolutely. When I say three times was the bare minimum I was in church, that was the bare minimum. Revival week was every night of the week, family camp, you name it. I was asking questions about how dinosaurs were possible, and no one was giving me good answers.



	As a kid I was, and the thing that got me out of that, and the thing that I credit a lot of the quality of my life was going off to college. It was a private evangelical university, but I was a science major, and my professors were—they were evangelicals, but they were also practicing scientists. People who had geology degrees, PhDs from the University of Michigan, people who understood geologic timelines and things, so yes, they were Christians, but they also gave me a new perspective, and so like you'll hear so much of, going off to college changes someone's life.
Jeff Crowder:	I will echo education, and I will say the tribes you—there's the tribe you are born into, but there are also tribes you encounter along the way. Silver Maples has been—in serving the chaplain of a wide variety of people—I should say wider, it's not that wide, but it's wider than what my own tribe of birth has been.
	Also, I would say some of us have maybe been raised in a home, or you have a teacher, or a family member, or somebody who encourages you that the world's a big place. It's a big, wonderful, amazing place that you don't have to be afraid of. I happen to have that in my family of origin, but you've gotta have somebody along the way that does that, and so those of you who are in education, thank you for doing that, keep doing that. That's the quick answer for me.
Kara Larson:	I'll take that as a line to go out on. Thank you very much. Thank you both for being here. Please thank Buddy and Jeff for being here. It's been a great night.
[Applause 59:39 - 59:46]	
Kara Larson:	Please come to our upcoming events. The new dinosaur exhibit next month, Science Cafe on 3D imaging and scanning and how that's changing science. We'll see you there.

[End of Audio]