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Introduction to David Legates and His New Book

Tom: My guest today is David Legates. And David, what's happening?

David: A whole lot, I think. Uh, that's, and that's a good thing.

Tom: Okay. Let's see.

Exploring Climate Realism: Insights from the Book

Tom: Do you want to talk about your book? Launch right into that.

David: Yeah, sure. We've got a gallon. I have a new book out. It's, uh, I don't know if you can see it is climate and energy.

The case for realism. Um, it's a compendium from about 16 different people, including Cal and I, uh, on various topics. Um, people asked, why do we call it the case for realism? I go back to sort of, if you remember. In the early days of CNN, they had a program called crossfire and generally the way that worked is you had 1 person on 1 extreme view.

Uh, and then the other, another person with the other extreme view, the 2 would yell each other for an hour and they'd call it entertainment. And so what we decided was that what we're seeing is people arguing that, you know, climate change is a hoax. Climate doesn't change. Humans can't affect climate. On the [00:01:00] other hand, you get people that say.

You know, humans are changing climate. It's not supposed to change. So it's going to be disastrous unless we gut our economy and do all sorts of stuff, um, that we're all going to die, you know, in a burning earth. And realism is somewhere in between. Climate does change. Humans can infect their climate. But we don't think it's changing for the worse.

It may, in fact, be changing for the better. More carbon dioxide is better for plants. Warmer temperatures are better for humans and animals. So animals, humans, plants, all should benefit from a warmer, more carbon dioxide free, rich world. And so the case for realism is that both extremes are probably just that extremes.

Tom: Okay. And were you heavily involved in selecting the authors? You have a, quite the range of authors there.

David: Yeah, we, we, uh, did. Um, there were some people we asked and they just couldn't do it. And, uh, but we were very pleased with who we did get. [00:02:00] And, uh, uh, the only person that we had. Issues, I mean, Pat Michaels, for example, uh, you probably know, uh, passed away during the, the writing and John Christie filled in to edit his, um, uh, his article after, uh, it was written, but other than that, I think everything went very well, uh, we really enjoyed working with all the people on the book and, uh, also at Regnery Publishing who produced it, so we're both very happy with how it turned out.

Tom: All right. And then sales of the book are doing well and the reviews of the book are doing well, right?

David: That's what I understand. Yes. Uh, I don't quite follow it, but Amazon seems to think we're number one in, uh, environmental policy or something like that. And I think that's a good thing.

Tom: Okay. Let's see.

The Climate Debate: A Shift in Public Perception

Tom: Do you want to talk in general about your experience in the whole climate debate?

You've been involved so long. Um, what do you see changing right now or what's happening in the last couple of years? Maybe that has been a change from the past.

David: Well, see, I'm, I'm generally pessimistic. I always [00:03:00] think that, uh, I always look for the worst and there's two reasons for that. One is if it comes to pass, I'm prepared.

And if it doesn't come to pass, well, it's only beneficial. It's only good. Um, but I'm not a fatalist and I think there is hope and we can should continue to fight back. A lot of people are starting to tell me that what they're hearing is that people aren't buying this anymore. That early on, you know, you tell them the sky is falling, uh, more hurricanes, more floods, more droughts, more tornadoes, more of all the worst things in the world.

And people get real concerned, but you keep telling them that year after year after year, when it does, you know, you set deadlines when the deadlines aren't met next thing, you know, well, we'll set a new

deadline. Well, at some point, you know, Chicken Little can only say the sky is falling for so long until people start to say, you know, the sky isn't falling, uh, you're selling me a bill of goods.

And I think, you know, some people are arguing and maybe they've, they've got a good point that we're starting to get there. That the american populace [00:04:00] is starting to see what's really happening It's no longer just the world's going to come to an end. It's the world's going to come to an end And we got to do something now about it What we're going to do is take away your fossil fuel based cars make you have an electric vehicle We're going to make you put electric connections in your house to run this.

Uh, you have to have solar panels on your roof Yeah, you know, uh, and it's just wait a minute. Why why am I doing all this again?

Signs of Change: Climate Denial Roundup and Public Sentiment

Tom: I think I saw an email from you in the last week or two about some possible signs of throwing in the towel, like this climate denier roundup is going away, or That,

David: that was an issue.

I mean, it was, uh, climate nexus. I, for some, some unexplained reason, I got on their mailing list. About four years ago, and it was kind of fun because they they talk about all the uh, You know the washington post new york times everything on climate change And then at the end they had this climate denier roundup and it would show up on the daily costs which if you're not familiar with the daily costs is a uh, Uh communist, uh [00:05:00] website and they would they would blast you they'd blast me they'd blast about everybody They could you know, it's all denialism.

It's uh all this stuff and then about I think thanksgiving You It said, uh, the, um, uh, the climate denier roundup is going to take a hiatus through Christmas. We'll be back next year. And so they dropped off, but everything else was there. And then in January, it said, we're, we're, we're coming back soon. And then about mid January, it was as if it never appeared.

It was just deleted. And I think about two weeks ago, I got, uh, this climate nexus and said, we appreciate for the last four years. Thank you. Uh, we're, we're done. And I'm not sure why that is. You know, it, uh, it, maybe it's showing signs that, uh, they're running out of cash that, uh, the people that have been funding it or moving somewhere else.

Um, I don't know where it's coming from. I just thought it was [00:06:00] odd that here's something that's been doing this for four years, uh, prevent providing this has all of a sudden gone belly up. You don't usually see that side struggling for money. So maybe it's a, maybe it's something that's that's, that's going to be a good thing.

Tom: I think it is a good thing. I've been watching this so closely and I'm seeing a lot of signs like that. I think this is how it crumbles that they're not going to come out and say, Oh, we're wrong. Sorry. They're just going to stop talking about it. And I'm seeing a lot of signs of that. Like I just saw, uh, who's the guy from black, right?

Rock, Larry Fink, maybe black rocket. There's some thing about how four years ago they mentioned climate change, maybe 20 plus times in their report. And then a similar report just now, they mentioned it four times. I think that's, what's going to happen. They're just going to start, stop talking about it. Um, I'm seeing a lot of that.

There's this Sabina Hassenfelder from YouTube where she has been very, very all in on this thing. But now she's saying, Hey, maybe we're being too alarmist and maybe some of these plans. I think she's called these climate. Uh, [00:07:00] plans, uh, bullshit. I think she said that on Twitter, I think. Are you allowed

David: to say that on Twitter?

Tom: You are allowed, yeah, I think you can say that. So I'm seeing a lot to be positive about. There's all sorts of interesting stuff in the book about the IPCC.

And it's what, especially a big farce. It was back in the day that, uh, for the first ~annual~ report, the summary for policymakers was written by one guy, the John Houghton, John Houghton.

David: Yeah. Yeah. Um, it was. That they pushed it early. I mean the idea is we need this report We've got no reports and we think it's a problem.

So we need to get something out right now And so the first edition Effectively was written by largely by houghton put together and the summary for policy makers Was his doing the same with the national climate assessment? The first national climate assessment was largely written by tom carl at what was at the time ncdc National Climate Data Center.

It's only when you get to version two and version three when you're doing updates that they included more people and codified sort of the [00:08:00] process a little bit better.

Tom: But there, it either was a version two or three where there was a bunch of statements that were everybody agreed on them and then 15 of them were left out that they would, the skeptical ones were left out and then they put in new ones later.

Yeah,

David: that's where the, in the second edition, there was this phrase, a just, uh, was it, um, as discernible human influence or, um, uh, something to the effect, a discernible human influence on the client. Exists and that the question was, how did that get in there? Because the process was that you go line by line of the summary from policymakers and each country has a vote.

I mean, this is not how science is done, obviously, but each country has a vote on whether they want that in or out. And in that discussion, that line was not there. And then it came in. And of course, the argument was that Tim Worth had gone behind the scenes and said, don't finalize anything. There's some things we want to change after the approval.

And [00:09:00] it came down. Ben Sander was the one that was in charge. He had entered several of these things in, uh, and took the flack for it. But nevertheless, Uh, that was a violation of the IPCC protocol that each country has the right to approve or reject various lines in the summary for policymakers. And then the summary of policymakers was changed anyway to delete things and to add other stuff.

Um, it's a farce.

Tom: Yeah, I'm amazed that that was the key statement of the whole thing. That key statement supposed to be consensus, blah, blah, blah, but it wasn't. It was all a farce. Yeah.

David: Yeah. Yeah. It was, it was all added after the fact, after the, after the fact for effect.

The Future of IPCC and Climate Policies

Tom: So what do you think is going to happen with the IPCC, uh, going forward?

It seems like people don't care nearly as much, even the media isn't all worked up about their reports. I don't think as much as they used to be. Do you think they're going to just continue going through the motions forever or what?

David: Oh, I think they will. The problem is, I mean, they've already gone off the, off the edge of the earth and how [00:10:00] bad this is going to be.

How much worse can you make it? Um, you know, and so at that point they've, they've run up against the wall. You, you just can't say it's worse than it was before. Nobody's going to, it's, it's. You know, there's nothing more to say, in other words, and so I think that's what's going to wind up happening is they'll keep screaming.

You know, we've got to do more. We've got to do more. Um, but nobody's going to pay attention to it because what more can we do? And part of the problem is we've already started to proceed down that way. I mean, I live in a small state, Delaware. Uh, we have already signed into law House Bill 99, which is sexually makes us, uh, Uh, follow net zero by 2050 and net half, uh, 50 percent to next zero, whatever that number is, uh, by 2035.

And so we have an electric vehicle mandate. We're going to convert all of our school buses and all of our, um, buses to, uh, electric vehicles. Uh, I saw California wants to [00:11:00] get rid of all diesel powered, uh, railroad engines. Um, Even though, for example, to pull a ton of freight 500 miles on a diesel engine requires one gallon of diesel.

That's apparently too much fossil fuel to use. So, I mean, these things are monstrous to begin with. What kind of battery do you have to have online to run that? Because you can't connect to a third rail and electrify overhead. Everything in the United States is just too expensive. California is just ridiculous.

So, you know, these are the kinds of things that are coming up. And we'll see if people start to object because I think now people in Delaware are starting to see, wait a second, this is, this is becoming onerous on me personally. I mean, if I want to build a new, new, Hot house or I want to build a new apartment complex.

I have to have the 220 volt connection for each garage location So that if I wanted to put in an electric vehicle I can [00:12:00] even though I don't have an electric vehicle yet I have to put that in when I build it. The next thing they're going to require is connections on the roof for solar panels If you're going to build an apartment complex, every apartment complex has to have a parking spot, and that parking spot has to be equipped with an electric vehicle recharging station.

I mean, you can't, I mean, this just starts to make it difficult to build anything, to do anything. And I think as people start to realize just how bad it's going to get, um, I think they're going to revolt, and hopefully that's where we all go back.

Tom: Yeah, I think that revolt is already starting or I'm hearing, uh, backing away from these mandates, et cetera, as people start to realize that it's all fun and games till you actually have to do anything.

David: Yeah, the red states, I think are going to do it faster than blue states because blue states don't see totalitarian overreach as a problem yet. But when it starts to overreach on them personally, then that's when they start to become concerned.

Tom: So do you think, uh, [00:13:00] are you seeing what everybody else's seems to be seeing about how COVID has woken people up that we can't trust the experts?

And okay, what else are they lying to us about?

David: I think that is, that is, I, I won't want to say helped, but I think for our case, I think it has helped. The idea is that they realize that if given an inch, Government will take a mile. Uh, and that's probably what they're doing right now with climate change.

And so now that they're starting to put that together with coven, they see the same thing happening over here. And I think you're right. That's exactly starts to put up the defenses of maybe we shouldn't be doing this stuff. At least not this fast. You know, and wind and solar. I mean, you, Delaware is converting much of our agriculture to solar panels.

We're pushing for offshore wind. The question then is, how does the power get from offshore wind on shore? We've got a major beach. We want to essentially turn into a power supply connection and remove it as a beach. [00:14:00] That's starting to get people riled up. Uh, like I said, when, if, if it's not, it's, it's not in my backyard problem.

You know, if other people go through this problem, well, they should, because we need to do this. But when it starts to happen to me and that's, it's starting to make my life difficult, that's when people start to, to fight back.

Tom: Within the scientific community, do you think that there's a lot of appetite that people, for one thing, they really want to be part of the IPCC because that's a high profile thing and they want that on their resume, or is there less of that?

The Role of Young Scientists in Climate Research

Tom: And also, maybe the younger scientists are still all in on this thing and people when they're 23 or whatever, they want to be climatologists. What are you seeing among like young or old people in terms of enthusiasm for climate science?

David: Yeah, see, I was very briefly at the end of the Trump administration, the director, uh, the executive director of the U.

S. Global Change Research Program. And so one of the things I had at my disposal was the list of all of the people that had applied to be [00:15:00] authors of the various chapters of the National Climate Assessment. And I was surprised that there were very few really big names on the list. Most of them were people who were graduate students who were newly minted PhDs.

And I thought, why are they so interested? And then I realized the big people that have been around a lot, they don't need anything on their CVs. They know where this is going and it's really a waste of their time. But for somebody who's a grad student or who's just come out, You need this on your CV. I mean, you're going up for promotion.

You can say, look, I was invited as a reviewer on chapter five of the National Climate Assessment. Oh, impressive. You must be important. Well, no, you're not important. In fact, we're putting you on there because we know you're probably only going to add a sentence or two. But we'll put your name on you'll use it as a, as a CV booster.

It looks good for your employer perspective [00:16:00] employers. Um, it works well for you for somebody that's a full professor has been around for a while. Working on this stuff is a waste of time for them.

Tom: So when you say they know where it's going, you mean they know it's going to be alarmist that, you know, it's going

David: to come in.

Yeah, it's already going to be that way. There's no need me, me getting my hands dirty, wasting time with it. Let, let the kids do it because they can really use the, uh, uh, the hype.

Tom: So there's no dynamic yet though among climate scientists that they kind of want to back away and they don't want to be quoted later on as saying this crazy stuff because they see the handwriting on the wall.

They realize that it's not going to warm like it's supposed to. Well, that may

David: be part of it. I mean, that's one of the things that if you, you know, now you've got a reputation to protect. Maybe I don't want

to be associated with the wild eyed people that are saying, We need to go back to pre industrial times in order to save the planet.

Maybe I don't want to be connected with them. Now, you know, for somebody just coming out, I need that line in my CV [00:17:00] because it looks real good. But when you don't need the line on the CV, you also don't need to be attached to something that is considered extremist and they just keep going to more extreme, more extreme.

You know, maybe it's time for me to get off the train and let it pull out of the station.

Tom: I do think I'm seeing softening of language that people are pushing back against the doomers. Michael Mann is pushing back against the doomers. I think he's going to want to say later, Hey, I didn't really believe in this as much as the crazy people.

I think there is some of that, but

David: of course he's going to say that. Yes. Um,

Navigating the Political Landscape of Climate Science

Tom: another question is, uh, let's say there is a new administration coming in, uh, soon. Would you be part of that yourself? Any chance?

David: No, I have I have seen what the the deep state looks like people like to refer to it as the swamp I refuse to refer to it as a swamp because the swamp is a very viable ecosystem and it's necessary for life I usually refer to it as the cesspool Because the cesspool [00:18:00] is a collection of human refuse and that's pretty much the way that works up at dc Uh, there are some very good people at noah Um Uh, they're just not at the top echelon in my view and, uh, no, I, I have no interest in commuting back and forth to, uh, D.

C. Um, I'll help out as best I can, but not being part of the administration is not in my future.

Tom: And do you think the cesspool is kind of here to stay that it's not going to be cleaned out by anybody in the next 50 years?

David: It's going to be very difficult. I think there are, you know, Certain things that the next administration needs to do can do to clean it up I mean one of the things I have I found that I was surprised as I came into the u.

s Global change research program. We had a meeting. They said there would be a meeting of icf Personnel immediately following this federal

meeting. Okay, so we finished the uh us gcrp meeting and And I found out I was the only one being asked to [00:19:00] leave everybody else in the room. And I mean, every other employee of the U.

S. Global change research program was actually an employee, not of the federal government, but of something called I. C. F. I. C. F. Started as the intercity fund back in the sixties. It was, uh, I think a couple of Tuskegee Airmen had worked to come up with a way Of getting federal grants, particularly related to aviation, um, so they could get involved.

And, uh, shortly thereafter it changed its name from Inner City Fund to just simply the acronym ICF. They got out of what they were doing before, uh, and did environmental stuff. And if you go to their website, they are as, as environmentally, uh, geared as you would see Sierra Club or the Nature Conservancy, except you've probably never heard of the ICF.

Um, ICF Incorporated, I think is their official name.

The Influence of ICF in Climate Research and Policy

David: [00:20:00] And the weird thing about it is that they run, effectively, the global change for the government. They are in control of global change dot gov, the website. They are in charge of producing the annual report are changing planet, which is sent to Congress every year on how climate change works.

They are in charge of coordinating and authoring effectively the National Climate Assessment. So, you know, the director of the National Climate Assessment is, uh, affiliated with the White House. But is housed in the U. S. Global Change Research Program. They, uh, work with the EPA. They work with the, um, Council on Environmental Quality to put together rulemaking.

Effectively, everywhere you look in the government to, uh, issues related to environmental, uh, concerns, ICF is standing right there. Their budget was in [00:21:00] 2022 was 3. 4 billion in 2024. It's now over 5 billion. Um, and it's like it's it's the most important, uh, environmental organization that you've never heard of.

Why are they in charge? I mean, if, if, you know, the Global Warming Policy Foundation or the Heritage Group Foundation were in charge of this, you know, the left would never tolerate it. But I think nobody knew about it. And so I started going around saying, do you guys know who these people are? And almost nobody knows and I'm hoping that this is one of the things we can do is sort of rip up um, the people that are ingrained in the system, um, And change maybe the upper levels of

of the administration and not just the the the political appointees I mean that was one of the concerns with the trump administration is it took them forever to replace the political appointees Uh, I [00:22:00] mean I came in in september of 2020 2020 Um, at that point, we've, uh, Maui, Ryan Maui came in as the chief scientist, NOAA chief scientist.

Well, the NOAA chief scientist before that was a member of the Deep State, had been there forever, and was working against Trump at every level. Well, he should have been replaced day one. But, you know, here we are three and a half years in and many of these people haven't been replaced. I think that's got to be, that's got to be changed.

Tom: Okay, so maybe there is some chance that if Trump were to get back in there that he would make changes faster and maybe do a red team, blue team thing. I heard he wanted to do that. Any chance in a second term he would do that?

David: Uh, that I haven't heard any more on. Um, but I think there, there is definitely now, uh, eyes have been opened.

They realize who they're playing against and what they need to do. And hopefully it'll be done this time. If it wasn't done last time.

Tom: So you probably don't want to name names of people who would want to be part of this red team [00:23:00] blue team thing or maybe you do like Ryan Maui. Do you think he would do it?

David: I have no idea. I have. I've only spoken to Maui once, twice since we, we left, uh, DC back in 2020, uh, I do know that I think heritage is trying to put together a list of names of people that are interested so that they can go to the, to, to Trump or whoever the candidate has to be, hand them a list. And say, here are people that, uh, you should start with.

Um, I know last time there was a fight between the, uh, DC group and the New York City group. Um, hopefully they can get around that this time and work together.

Tom: Okay, I had another question about the cooling from your book. I think there is a quote from Stephen Schneider saying there is considerable evidence that this warm period is passing and that temperatures on the whole will get, will get colder.

He said that in 1976, I think shortly after that and started warming and he flipped to a warmism. Um, do you [00:24:00] think, uh, Uh, what will happen if this happens again, that if we flip back to cooling for decades, do you think we'll actually see people say, ah, sorry, we told you fossil fuels would warm the planet, but we meant cooling?

Do you think that's possible?

David: No, I don't think that's possible. See, when I got involved in this, I was, it was in 1978. And I want I now updating myself. I know, but I wanted to be a weather forecaster. My goal was to sit at an airport somewhere and inform pilots on what the weather is likely to be. And so I applied to three universities, University of Delaware, Penn State and University of Maryland.

And, um, I went to University of Delaware and I said, well, we don't do meteorology here, but I talked to John Mather. John Mather had been a forecaster in Boston. He was a premier climatologist in the country, and he said, you know, you don't want to do this stuff. It's going to be shift work. By the time you get into the 1980s, computers are going to be big.

They're going to be doing most of the forecasting. What you really want to get into is climate [00:25:00] change. That's going to be the big issue in the 1980s and beyond. Well, I don't know what he's telling me, you know, bill of goods. I still got my heart set. So I go to, I go to Maryland. I walked literally walking off the street.

I said, I want to talk to somebody about the program. They set me up with Helmut Landsberg, who is another famous climatologist. And he essentially said the same stuff. And I said, well, you know, I've, uh, applied to Penn state. He said, you know, I spent several years at Penn state on the faculty. All they do is forecasting.

I would recommend you not go there. Uh, he said also said, you know, I would also recommend you not come here to the University of Maryland Because we're not focused on doing climate and it would be a waste of you to come here I said, well, the funny thing is everything you've told me is exactly what John Mather told me at the University of Delaware He said I just reviewed that program.

That's an excellent program on the way up You should get in on the ground floor of that and the the punchline is i've never been to Penn State But so but back then you got to [00:26:00] remember and coming in with with Schneider's quote You This was the era of global cooling. Temperatures were going down despite the fact that carbon dioxide was increasing.

We're headed to the next ice age. Can we stave it off? Should we put more carbon dioxide in the atmosphere? Should we take lots of black soot and put over the Arctic to essentially absorb more incoming radiation and warm the planet? And of course, then the temperature started to change. And when it did, oh, now it's carbon dioxide.

Now we've gone the other way. I don't think it'll happen because now we've gotten way too sophisticated in terms of what we're doing with respect to, um, to climate records. I mean, I know that when Trump was

coming in, there were people staying up at all night, uh, going online, saving all the climate data because, you know, he's going to come in and erase it all.

Because according to Saul Alinsky, that's how we would have done it. So you blame the other side for what you would do. And so [00:27:00] the problem is they've already changed all the records. I mean, for example, there's a NOAA weather station that reports just four miles from me. And I can go online, I can find my daily data.

The problem is after every one of those, there's the little letter E. And if you look up the code, E means estimated. That station has not been there since 1985, but the station interpolation algorithm requires you to have data all the time. So what happens at the station, even though it stops and we don't have observations, they go to stations around it and then attempt to estimate what the temperature would have been if that station were still there.

Now, it's not a problem in Delaware because we're flat and temperature doesn't vary much, but a lot of stations, for example, at high altitudes, uh, have gone away. And when you start to estimate those from surrounding stations in the valleys, you start to overestimate temperature. So the station goes away on the mountainside, uh, it's [00:28:00] estimated from stations down low, the temperature now immediately jumps up, all of a sudden there's a warming in the record, see it's climate change.

No, see, it's, it's station data missing. Uh, and that's, that's where the, but this is all baked into the cake and they know they've been doing this for years. They know that they've been adjusting climate records. And that was one of the things I did for my dissertation is clearly precipitation is a biased underestimate.

So we have to adjust the record. Based upon what do we expect the underestimate to be, based upon how high the gauge is, the kind of wind field you have, uh, how often the gauge is measured, those kinds of things. So I understand that the records may not be correct, but in particular what they tend to do is increase the date over time, knowing full well that most of these stations are located in urban areas.

And in urban areas, we have what's called the urban heat island effect. I mean, think of Dulles Airport, for example.

The Evolution of Dulles Airport and Urban Heat Islands

David: Why is Dulles Airport where it was? Because in the [00:29:00] 1940s, we had these newfangled plane things. And so we had to find big

land so we could land them. And we had to have it out away from the city.

So there was cheap land where Dulles, they bought it. There was nothing around it, but put it in there. The station, which was downtown in Center City, Washington, was moved out to Dulles because these newfangled planes need to know weather conditions, and it doesn't make sense to have two up, two bureaus in town.

So they move it out there. The temperature drops in the 1940s because we moved it from the urban heat island out.

Debating Climate Data Adjustments and Global Warming

David: And now what's happened? You look at Dulles, you know, the Washington suburbs have just completely surrounded it. So over time, the temperature has been rising out there, not because of climate change.

Uh, globally, but because of the local effect due to the to the stations are the city developing around it. So if you were going to adjust the record, you'd say, well, if I want to get a background temperature, I'd remove the effect of the urbanization, which [00:30:00] means cooling the record. Instead, what they do is warm the record every time.

And so that makes no sense, except when you realize that what that really does is it keeps global warming happening. And so therefore temperatures are going up. Everything they seem to do brings you about warmer temperatures. And so I think even if globally temperatures started downward, I think you'd still see their temperature records going up because that's baked into the cake.

Satellite vs. Surface Temperature Records

Tom: Do you think they're going to try to cancel the, uh, Roy Spencer's satellite record then? Because that's so inconvenient if they totally diverge over time.

David: Well, they have, and that's where the RSS group comes in with a slightly different interpretation. Uh, even though there's Theirs doesn't show nearly as much warming as the station record does.

And you would expect that. I mean, the satellite's estimating it over a certain layer in the lower atmosphere. The surface record is at about five and a half feet above ground, which makes it very

convenient for six foot people to [00:31:00] go to the weather station and, and do a work on it. Um, so it's, it's really very much closer to the ground associated with changes in local characteristics because it's a single point estimate.

The satellite's integrating over a much larger area. I mean, if you really want to know what's happening in the lower troposphere, the satellite record is really what you want, not the surface observations.

Investigating Surface Data and Station Issues

Tom: So whose work do you like the best in terms of looking at what's really happening with the surface data?

Like there's Anthony Watts has worked on it, John Shuchuk, I think has talked about this whole ghost station issue. And Katie Spence has written that up in the Epic Times. And uh, I guess the Connellys and Willie Soon have looked at very carefully at all that. Anybody else we should be looking at?

David: No, I think there's a lot of people contributing to it.

I wish, um, um, Anthony hadn't taken his thing offline because it was, it was really good to look at his stations and see, you know, here's what the station really looks like. You know, for example, you've got a station in Phoenix that's showing lots of warming and it happens to be located over [00:32:00] an asphalt parking lot.

Um, well of course it's warming. It's, it's an asphalt parking lot, you know? So, um, uh, Uh, you know, and seeing some of his stations that they, he and his people tracked down, you know, next to an air conditioner that's blowing hot air. I mean, the locations of some of these really show that the surface record has got fundamental problems.

And again, if you really want to know what's happening in the lower atmosphere, the satellite record is really the only hope.

Tom: And do you know what happened to the story of why that's offline? I do not know. Uh, I do not

David: know.

Historical Climate Patterns and Cyclical Changes

Tom: And then are you a fan of Tony Heller's work, or I am anyway, in terms of looking back?

Oh, definitely, yeah, yeah.

David: I mean, yeah, he, he, his goes back in historical events. So you'll go back to, you know, uh, 19, you go back to an article in, uh, uh, Monthly Weather Review. And it says, you know, we have gone from to 88 or up to as far as 88 degrees north latitude and found no ice. We've never seen that [00:33:00] before.

And he says, okay. So that's, uh, that's uh, 2023, right? No, it's 1932. Uh, so , you know, when you start to look at what the actual record says and what people responded, uh, it's all cyclical. And this is what I think we have a tendency to forget. Most people's lifespans aren't long enough. So they tend to look over the last 10, 15 years, uh, and things that, you know, we, we went from a period of limited hurricane, uh, activity to more active hurricane activity.

Well, that must be climate change. No, it's cyclical. Go back into the seventies. We had lots of hurricanes back then. Go back to the thirties. We had lots of hurricanes back then. So it goes through a series of cycles, but unfortunately we, our mind is, is confined to a very short record. And so we have a tendency not to understand, not to remember, and not to realize that it was different in the past.

Data Integrity and the Manipulation of Historical Records

Tom: So I can't remember his name, but Willie soon talks about a guy over in Europe who kept downloading copies of the data [00:34:00] every day. Maybe he would download a copy and the stuff just kept changing the data from whatever decades ago. Yeah.

David: Yeah. It was, um, I can't remember the guy's name either. It was, uh, the global historical climatology network.

Now there are preliminary data and their final data. One of the interesting things he found is that some of the old records were actually changing, and I've seen that happen a lot too, that all of a sudden you'll have a record and they go back in the 1930s, aren't quite as warm as they were back, you know, two years ago.

So what happened between say, 1920 or 2022 and 2024 to change data from 1932? Well, you know, if, if you've gone back and said, we transcribed that wrong. I understand that, but it's happening all over the place and it's happening without explanation. And so it almost sounds like, you know, the, the, the, the books are being cooked.

You go back, you take the warm periods, knock them down a little bit. [00:35:00] You take the current values, you beef them up a little bit. It shows some warming. That's what we're trying to tell people anyway, that the planet's warming. You play that off as carbon, carbon dioxide induced. And I think, you know, like you say, at some point people say, You know, you can't keep telling me this over and over without disasters happening, um, and they'll start to revolt.

And hopefully that's where we are. Do you

Tom: think the actual raw data, the original unfudged data is available for a lot of these stations or it's gone and we just have to work with whatever's been fudged since then?

David: No, I think, well, no, it's there. Um, that was one of the issues with the, um, University of East Anglia's, um, temperature reconstruction is all the data went in there were changed.

And then they threw away the original and that was sort of the, the, the answer was, well, you know, we, it was a storage issue. We can't keep everything. Well, first of all, you keep the original, but second of all, we're talking [00:36:00] about, you know, a 3. 5 inch floppy disk that, you know, the number of original observations you have is not, is not an exorbitant.

You've got monthly data at most of this stuff. You know, it's not a storage problem and shouldn't have been a storage problem. But I think that was a convenient thing. Um, I hope they're not doing that. But then again, if you played the Saul Alinsky game, they thought Trump was going to come in and wipe out all the records.

So they were busily trying to download everything to university computers so that once we get rid of him, we can build everything back up again, because that's how we would have done it. Interesting.

Exploring the Impact of CO2 and Climate Sensitivity

Tom: I want to go back to when you, uh, were being advised to go into climate change in 1978. That was because we were going to be fighting global cooling?

That's what they were thinking?

David: That was the book I've got over here somewhere. Uh, The Cooling by Lowell Ponty. There was articles in Newsweek, um, on, on, um, global cooling. Essentially. The interesting thing about that article is the subtitle [00:37:00] says, scientists think that, uh, the, uh, more hurricanes, more floods, more droughts, more tornadoes are all

linked to this global cooling.

And so the question now is you get the exact same argument except it's linked to global warming. Unless we're at a saddle point, which was like the perfect case to keep everything in a minimum. And if you went either way, things got worse. One of these two really has to be wrong. And so what we do in the book, coming back to that is one of the things we talk about is, is a warmer world, a more violent world, or is it a less violent world in terms of weather?

And what we see is everything is driven largely by the polar equator temperature gradient. The equator is warm, poles are cold. And in particular, if imagine for a moment, the two were at the same temperature, what will we have in terms of global circulation? The answer is nothing. We'd still have up, uh, up valley and down valley winds.

We'd still have land sea breezes, but we wouldn't have westerlies. We wouldn't have tropical easterlies [00:38:00] because all those are driven by the fact that there's a temperature gradient and hence a pressure gradient between the equator and the pole. So, in a warmer world, the equator warms, but only slightly, because it's warm air, um, because it's, uh, very humid air, uh, water has a very high specific heat, so it takes an awful lot of energy to warm, warm air relative to cold air, and moist air relative to dry air, so the tropics don't warm all that much, but the equatorial, or, but the polar regions, I should say, warm quite a bit.

It starts off colder, starts off drier, you get a larger temperature range, and then you get melting of the ice caps, melting of the sea ice, melting of the ice cap changes the albedo, absorb more energy, more temperature increase, the sea ice goes away, you get a connection there with the warmer ocean waters and the colder air, so you get more advection of energy that way.

So it's very easy to warm polar [00:39:00] regions than it is to warm the tropics. What that means is the polar equator temperature gradient decreases. So the, the, the conflict of air masses between tropics and poles decreases. And if you look at what causes. A lot of thunderstorm activity. What causes tornadoes?

What drives hurricanes? It's you've got warm, moist gulf air in the United States coming into contact with cold, dry air coming out of Canada. And this time, you know, April, May, we get a lot of Tornadoes in the Midwest. Why is that? You've got cold air aloft. You've got warm air below. That creates a lot of instability.

Now you get warm, moist air pushing in from the gulf, cold air coming in contact. The cold air forces that warm, moist air to rise. You've got an unstable, you get a violent rise, you get a lot of storms. If

you were to mitigate that polar equator temperature gradient, The rising motion wouldn't be as big, the thunderstorms wouldn't be as severe, the tornadic activity would go down, the hail frequency would [00:40:00] decrease, and essentially we're seeing all of the above happening as a result of a warmer world.

Tom: Very interesting.

The Role of Natural Variability in Climate Change

Tom: I was gonna ask, uh, how quick was the, uh, switch over between, uh, global cooling scare and global warming scare? It seems to me it was pretty fast, but you were watching it at the time. What happened? Yeah,

David: it was very fast. And I think the reason it was very fast is it coupled with a couple of meet, uh, several meetings in the early 1980s.

Um, there were, there was a push now for globalism. And one of the things that the question was, how do you get essentially the right kind The world to be, um, I want to say socialist. Okay. So socialism needs people working together within a country. You can blame the rich because you got rich because you raped the poor.

So you need to give some of your money back and we can get wealth through distribution. How are you going to do that country to country? Well, it turns out if we can go to rich nations and say [00:41:00] you got rich because you burned fossil fuels and that caused a decrease in the environmental quality, which now these poor countries are trying to fight against, you need to protect them.

Therefore, what we could do is take money from the rich countries, particularly if they're willing to go along with this, and give to the poor nations, although that's not You realize the U. N. Doesn't really give to the poor nations. It gives to the U. N. which can do much better with the money they think then giving it to the poor nations.

But the idea is they can take money from the rich, move it towards the poor, and that's the whole goal is now we have a way of moving that. The only way we can do that is to say that it's carbon dioxide that's driving the temperature, and that's the direct effect of you burning fossil fuels. And so that's why you have to pay up.

Tom: So do you have a sense of what really did cause the warming in 1940s to stop and cooling to start around then and then the flip again in the 70s? What really [00:42:00] did cause that?

David: I think some of its natural variability, I think some of it is airplanes. Um, and a lot of the, the, the movement of weather stations from downtown, particularly out to the interlands where the airplanes were taking off from.

Took you immediately away from the urban heat island effect. So a lot of stations saw a temperature decrease as a result of the station moved all over the world. And then as the cities grew, essentially the urban heat island returned slowly and that gets you warming about, it turned over about the late 1970s.

Tom: Interesting. How about just all the heat in the U. S. in the 1930s? Do you think it was related to plowing and stuff or just really was hot naturally for some reason?

David: I think it was really hot. I mean, there was a concern at the time that, uh, you know, the, the rain follows the plow and uh, the, the Soviets had the same idea, uh, the five year plan for the reformation of nature.

Everybody wanted to put a shelter belt of trees out [00:43:00] in the Midwest or in, uh, the East, excuse me, in Western Russia. Somehow trees will have access to more water. They'll put more water in the atmosphere. The water in the atmosphere will cause more rain that will cause the trees to be watered and therefore the trees will continue to go and the plants the the crops that happen to be near the trees will get enough rain and will make the midwest a Breadbasket of the future and of course it never happened It became the 10 year plan for the reformation of nature in the soviet union would have been the 15 year plan had it not been You For World War Two coming along, but the idea is that water is highly variable.

So, yes, you can put more water in the atmosphere, but unless you have a mechanism to cause that water to condense, that water is just going to move away until it finds a mechanism. And I often say, if you look at the, um, area around the Red Sea, Saudi Arabia, Saudi Arabia. That area. It has some of the highest dew points in the world.

Upper upper eighties and degrees [00:44:00] Fahrenheit. You've got lots of moisture in the atmosphere. You have almost no rainfall. Why? Because there's no rising motion. There's nothing to cause that moisture to rise the air to cool. To get condensation. So just because you've got more water in the atmosphere doesn't necessarily mean you're going to get more precipitation.

You will get more precipitation, but that water is going to have to move to an area where there is rising motion, and that's this gets me back in a lot of my discussions and in class on cloud seeding. You know, everybody thinks that we just put more silver iodide in the clouds. The clouds will precipitate.

We can keep this going. Yeah, you'll get the cloud to precipitate. It's been demonstrated. You know, you can take a fog layer cloud seed it and get the fog layer to dissipate, but you can't get the rising motion. Usually, we're in the middle of a drought because not because the precipitate the moisture is in the atmosphere.

It's because the precipitation is not there. Why is the precipitation not there? The precipitation is not there because the mechanism has gone away. And [00:45:00] ironically, if you think about what the Native Americans were trying to do when they marched around a bonfire, if they turn counterclockwise, They were actually trying to induce rising motion in both respects.

Now it's on too much small of a scale to make much of a difference, but they actually had the right idea. Get a clockwise, get, get a cyclonic motion going, get rising air. Maybe we can get out of this drought and bring precipitation. But, you know, uh, but putting, uh, Silver iodide in clouds doesn't enhance the precipitation forming process.

And eventually it'll break. Climate changes. And then we can point and say, see all that money you spent on cloud seeding. Finally, two years later, it all worked. Um, but yeah, and politicians never want to be caught saying we're not doing anything. So we've been paying for the silver iodide program all along.

Eventually it's all going to fix itself out and we will cloud seed forever. Even though from a scientific standpoint, I don't think it makes [00:46:00] a hell of beans difference.

Tom: It doesn't make a difference even locally because I think people are saying that there was some cloud seeding happening that caused flooding in Dubai just in the last couple of weeks.

Do you think that is not the case?

David: I don't think that's the case. I mean, like I said, I think you can cut a hole in a cloud. You can dissipate, um, severe hail. But I don't think that anybody has really been able to demonstrate that extreme rain events are caused by cloud seeding. Uh, if they happen, I mean, there was a guy, um, who had what's called cloud buster, and he was going around the western United States selling the stuff.

Uh, he would shoot stuff into the atmosphere and, uh, apparently did and then caused flooding in LA. To the point where they tried to sue him for, uh, for doing it. But I think that was all happenstance. I don't think anything he was doing caused the rain to occur. It just, he knows that eventually the rain is going to come.

At that point, I'll get paid.

Geoengineering, Cloud Seeding, and Weather Modification

Tom: So a lot of people, as they look up in the sky, they see [00:47:00] various types of contrails and they think there are some geoengineering experiments going on. Do you think, how much of that is happening?

David: No, I don't think there's geoengineering. And the one I was always asked is because I was part of NOAA is, uh, what's going on with HAARP.

The high altitude, um, Arctic, uh, can't remember what it stands for, H A A R P up in Alaska. Um, it was supposed to heat the upper ionosphere to see what happens, um, from the surface. It's a network on the surface. And then, uh, I think the federal government gave it off to, um, University of Alabama Fairbanks.

And the question is, is that changing precipitation patterns? Is that changing upper air circulation? Are we affecting the weather? And my answer is, you know, I'm, I'm sworn to secrecy. I'm not allowed to talk about that, but no, it's, there's, I don't think there's anything there. There's a lot of interesting things if you're really interested in high altitude electromagnetics.

Um, but not if you're [00:48:00] interested in weather modification.

Tom: Okay, I'm just looking at this headline from earlier this month about geoengineering test quietly launches salt crystals into the atmosphere near San Francisco. You have any comments on that?

David: I mean, they do a lot of things from test to time to time to see what effect it will have.

I mean, that's scientific experimentation. Um, but like I said, I'm, I'm still looking for the direct effect of how that's going to change something. Um, you know, the, it's, it's like cloud condensation nuclei is what, um. You know, these things are trying to address and the atmosphere is dirty enough that the, the, the, uh, moisture in the atmosphere does not need anything else to condense around.

That's never the limiting factor. Limiting factor is always can you supply enough rising motion to cool the air to get to condense below the dew point. To get raindrops to form, then to get them to coalesce together to form larger raindrops that finally [00:49:00] beat the fall speed and wind up coming to the ground.

That's the key thing. Can you do that? Uh, pretty more condensation nuclei in a cloud actually may be counter intuitive because if you put more in the cloud, you get smaller and smaller drops. And unless you can get all those small drops together, you don't get coalescence. You don't get rainfall anyway.

Um, so I'm, I'm always looking for how does this affect the actual physics of the problem and not just simply, you know, it, it, it, it might work. Let's see what happens.

Tom: So I'm seeing some data showing that, uh, the UK has been sunnier lately than it was maybe 10 or 20 years ago. Do you have ideas on what's changing cloudiness, if anything, or something must be causing it to fluctuate, but.

David: It could be air patterns. I mean, we, you know, we go through, um, periods where there's a lot, it's a low pressure and then lots of high pressure. And so I pressures associated with less cloudiness. So, if atmospheric circulation changes, [00:50:00] if the, um. Atlantic multi decadal oscillation, where the Arctic oscillation goes into a different phase, you get different weather patterns passing over, um, and so as a result, um, that could cause it to happen.

Uh, so it could just be natural variability associated with these oscillations in the atmosphere. Next question is, what causes all these oscillations? Why do we have El Ninos? Why do we have, you know, Pacific Decadal Oscillation? And to some extent, they can be explained by the fact that it's non linear dynamics.

The one thing I like to show in class is, um, they, somebody at a table has got a pendulum. So it starts the pendulum swinging, the pendulum swings, or you can't see me, the pendulum swings at a very regular, regular manner. And so given the, the, the gravitational attraction, given a little bit of a knowledge of the frictional at the, at the, Uh, the air resistance and also at the fulcrum, [00:51:00] you can pretty much predict exactly how that pendulum is going to behave.

The next step is to take the pendulum and disconnect it so it becomes a pendulum on a pendulum. So you've got a pendulum swinging down here and then this is swinging up here and that motion is completely unpredictable. You can start it and it, the bottom one will spin around. The sub top will stop moving, then the energy goes back in the top one, it moves fast.

And the bottom one sort of, and it just goes back and forth. And that's the, the funny thing about non-linear dynamics, uh, sometimes called turbulence. It, they're nearly impossible to predict. And so I think that's part of the issue is what you're seeing on a large scale. Is an atmospheric modulation that goes from different patterns back

and forth over time because there's nonlinear dynamics in the climate system that we could never hope to predict.

Tom: So, do you think either cosmic rays or geological, geologic heat changes in either one of those are major influences in what happens globally or no?

David: [00:52:00] There could be. I mean, I've seen people studying cosmic rays. We had a guy visit the University of Delaware from Nigeria, who's an expert in cosmic rays. We had, uh, um, there has been a discussion now, and I remember it coming up back in the 1990s when I was at the University of Oklahoma, that maybe El Nino, La Nina, the question was, is this an atmospherically driven formula?

So you change the atmospheric circulation and the ocean underneath changes because the wind sets the ocean in motion, or does the ocean change and dry the atmosphere because there's a whole lot more momentum and energy stored up in the ocean than the atmosphere? And the third argument was, well, maybe it's subterranean magma flows that are slowly changing heating of the ocean, which in turn affects the atmosphere.

Maybe it's geology that's running the whole thing. And so, I mean, I'm interested in what they find, what they think. I'm more skeptical at this point as to whether Deep magma in the ocean is actually [00:53:00] propagating all the way up to the surface of the central Pacific Ocean and changing its effects. But who knows, maybe we'll find out that it has effects elsewhere that propagate out to the central Pacific, and it's worth looking into.

Tom: So there was a measured spike in temperature, I think, and especially in the Atlantic and maybe overall in the last year or so. Do you think that is related to a volcano putting a large amount of water vapor way up in the stratosphere? Yeah,

David: I mean, that was sort of an odd, oddball event because you had, I can't remember exactly where it was, I think it was down in Indonesia, but you had a volcano that went off and it went off underwater.

So when it took all the gases and stuff, they picked up a lot of water from the surface. And since it was a strong enough eruption, it was able to push things to the stratosphere. You got a lot of injection of water vapor there. Generally things that enter the stratosphere take a long time to come out.

Because by nature of the word stratosphere, [00:54:00] it's stratified, it's very layer like, there's not a lot of vertical motion, uh, so it takes a long time for the stuff to settle out. And we don't usually see large injections of water into the stratosphere.

So here was a rare case where it happened. And now we're seeing, you know, it playing out.

And what happens, of course, is it the eruptions of volcanoes don't stay where the volcano erupts, they tend to move around, uh, redistributes. I mean, even Pinatubo after a year or so had effects that circumnavigated the globe. So, um, who knows where that was going to show up as a significant impact. And, uh, it quite, quite very well could have been a direct result of that volcanic eruption.

Tom: How surprised would you be if we go in the next 10 to 30 years without any warming shown in the UA, UAH data that it doesn't reach its recent highs for a long time?

David: The weird thing is the UAH data shows virtually no warming except on two, warming [00:55:00] or cooling, except on two events. One is after an El Nino event.

That stands to reason because if you take a large body of water and you increase its temperature, that's going to affect the atmosphere next to adjacent to it. So generally an El Nino event sees a big bump in temperature, and then it slowly starts to come down. The other signal that comes out of it. We haven't seen in a while are major volcanic eruptions such as Pinatubo or, uh, Uh, Others like that that create lots of particles in the stratosphere, and that causes a surface cooling.

Like I said, we haven't seen that for a long time. So what happens is you get, you know, no rising motion. You get a change in the stratosphere through these volcanic eruptions. And as a result, um, climate remains, uh, you know, temperature goes down.

So the record that the satellite record is affected largely by warming of the surface waters. [00:56:00] You know, El Nino, La Nina events, and then essentially volcanic eruptions beyond those two, you're seeing sort of a constant value.

Tom: Oh, I just have one more question. I think, um, if we could just leave everything else the same and just double CO2 from here and then wait, uh, 10 or 20 years, how much warming do you think that that would cost?

David: Probably about one, maybe a little bit more than one degree Celsius. I mean, that seems to be the argument now, is that if you have no carbon dioxide in the atmosphere, a little bit of carbon dioxide goes an awful long way.

And that's why, to get to where we are, we have essentially a warming of about 30 degrees Celsius over what we would have if we had no water vapor, no carbon dioxide, no methane, no nitrous oxide, no greenhouse

gases at all in the atmosphere. Doubling all of that Uh, is not going to get you another 30 degrees.

And so carbon dioxide, many of the, uh, uh, wavelength bands that it absorbs are [00:57:00] saturated. So I think the best estimate right now is that a doubling of carbon dioxide gets us maybe 1. degrees Celsius, maybe a little less, maybe a little more. It depends on the feedbacks and what else happens. Uh, it would be nice if we could hold everything constant and play the, the what if that's what climate models are for.

But of course, in climate models, the carbon dioxide concentrations are, you know, you have to specify what they're going to be in the future. Nobody really knows what they're going to be in the future. And you have to specify the climate sensitivity. And they tend to specify a climate sensitivity that's about 5 degrees Celsius for doubling of carbon dioxide.

So that's why I say that the models overstate the case and why they do is really easy to explain. They have, they are too sensitive to carbon dioxide. They're being driven by models that are showing too much carbon dioxide being produced between now and 2100. I mean the, the RCP 8.5, [00:58:00] whereas it's now the SSP uh, dash five, uh, dash 8.5.

The 8.5 is watts per square meter of forcing generated by the additional carbon dioxide. Nobody in their right mind believes that's likely to happen. It's a, it's a, it's not even a business as usual scenario, and that was one of the things. That Betsy Weatherhead, who was the director of the National Climate Assessment while I was there, and what I and the USGS were trying to do is to downplay in the National Climate Assessment this extreme climate change scenario driven by carbon dioxide rising at an exorbitant rate, and we were pushing for that.

The administration changed over, Betsy was fired, uh, they brought in new people, and now we're using the same models, and it's, of course,

Tom: going to be worse.

Concluding Thoughts on Climate Change and Future Directions

Tom: Okay, so any other points you'd like to make before we wrap up here?

David: Not that I can think of. Uh, like I said, um, we're, we've got climate, I can't, you can't see it.[00:59:00]

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Tom: All right. I'll put both of those links in the show description and I think we're, we're good.

So thank you very much. I really enjoyed this talk and hope to talk to you again. Cool.

David: Thank you. Take care.

Tom: Goodbye.