

The Water Will Come

Speakers:

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Moderator:

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(Transcription by [RA Fisher Ink](#))

Ross: We're going to interview Jeff Goodell. He actually stood us up last year because he had a better invitation; he had to go to Antarctica with Secretary Kerry—couldn't say no to that. But he did come back. Today we're going to be talking about *The Water Will Come*. This is Jeff's new book; it's great. I read it a couple of weekends ago and I think I sent him an email toward the end saying that I needed a drink to get through it and that things looked pretty grim. But he insists with me that there is actually some hope for us all on this. So, Jeff's written books about coal mining, geo-engineering; this book obviously tackles the rising sea levels and melting ice caps. Let's talk about that a little bit. This is not a new problem so why is it so urgent right now?

Goodell: Well, it's so urgent right now because we're realizing that for a couple decades there's been this idea that we were going to kind of get ourselves together and all be good people and cut carbon emissions and get this problem of climate change kind of under control. And I think it's one thing—it's pretty clear right now that we're not doing that and that we're going to be suffering the consequences of that. And for me, this book started after Hurricane Sandy. I'd been writing about climate change for a long time but I was in New York the day after Hurricane Sandy hit and, you know, it was obviously an incredibly dramatic event and as a journalist I was thinking about 'how am I going to write about this'. And I talked to this scientist at Columbia [University] who said they had nine feet of storm surge in lower Manhattan and he said, "Well, one way to think about this is, imagine that that water comes in but doesn't go away." And that's a kind of dress rehearsal for what sea level rise will look like and so I thought, wow, that's a pretty interesting idea. And so I started pursuing this and I went down to Miami and realized that Miami was in big trouble and that was sort of the genesis of the book.

Ross: So let's talk about Miami a little bit because it basically sounds like it's underwater pretty much all the time? I mean, that's what I took from the book and that's what I keep hearing and now I cannot think about Miami without thinking about flooding constantly.

Goodell: Well, good, because it's true. I mean, not all of Miami floods constantly but, you know, after Sandy I went to Miami right away and I happened to be there during king tides which is right about this time of year and I was walking around Miami Beach in this area called Sunset Harbor, lots of million-dollar condos and things in water up to my knees just on regular king tides.

Ross: What are king tides, can you explain that?

Goodell: King tides are just every year for various reasons of the positions of the sun and the moon and currents and things like that, the high tides are particularly high. So it's just this two week event every year that, now, because it's such a flooding event in Miami, it's like a weird sort of tidal Mardi Gras down there in a way. I mean, it's like parties in a way of the arriving of king tides.

Ross: But so you said that's happening around now?

Goodell: Yeah.

Ross: So I'm going to Miami next weekend. Do I need wellies, because I didn't pack any?

Goodell: Yeah.

Ross: Ah, okay. I'll have to get some then. Okay. I don't know if you guys heard earlier when we were in here this booming noise or some banging. Let's talk about that a little bit. So I heard them; I know a few other people on the stage here [did] and we're like why is all this banging happening? Turns out that they are reinforcing some pillars or something on the coastline and as it happens this apparently is sort of like a ground zero for this issue, is that correct?

Goodell: Yeah, so I mean one of the things about climate change in general and sea level rising in particular, is that a lot of people think of it as some far away problem. That it's something that we'll deal with when we get ready for it and we'll take care of it later. And, of course, the wildfires here were one example of the urgency of what the consequences can be now. But for sea level rise, lots of people think it's this sort of long, slow slope that, you know, maybe in 30 years we'll worry about it. No, that's not the way it's happening, even modest changes in sea level rise have a big impact. And we know that seas in the past have risen in these very dramatic pulses, so it's not a linear thing. And it turns out that right here, literally this hotel, is a great example of the risk of sea level rise right now. If you go outside and you walk out onto the patio and you see a chain link fence that's up; they're repairing the coast there in front of the hotel there, it's eroding away. This place we are in right now is like the hot spot in northern California for the problems of sea level rise.

Ross: So we shouldn't come back for a conference in a few years here; it'll go under.

Goodell: Well, it won't be here. I mean, no, seriously, obviously this hotel will be here for a little bit of time but I don't know the details of like how this is valued as an asset but, you know, when you have a coastline that's eating away 50 feet from your however many millions of dollars this hotel is worth, it's going to be worth some millions of dollars less because it's soon going to be in the Pacific. But this is not far away; this is a now problem.

Ross: And this is what you keep saying. This is really a now problem.

Goodell: Right.

Ross: Depending on where you are in the world you feel it slightly differently. So, you know, people are better with context and things that they're used to so let's think about this a little bit. So most of us will probably be dead but if I was Ray Kurzweil, because I'm never going to die, what are coastal cities going to look like in 100 years? Like, which ones are still going to be there, which ones will be gone; how is Silicon Valley going to do because I understand from you that this is actually not the best place to be building stuff as well.

Goodell: It's hard to say exactly what they will look like because as we all know the future moves in unpredictable ways and I don't want to predict the future in the sense of how a city will look. But I do know that coastal cities like Miami—it's the poster child because the vast majority of all Miami-Dade County, and all of southern Florida is less than six feet above sea level and the projections for the end of the century are as high as eight feet. And we don't know exactly what they're going to be, most scientists that I know are on this sort of escalating side, and are becoming more and more likely for reasons that we could talk about. But a city like Miami is built also on a porous limestone so that even if you tried to build walls, it won't really help because the water will go underneath. It's like building a city on Swiss cheese.

So it's very hard to imagine what Miami looks like by the end of the century and, you know, maybe there will be ways of creating floating houses. There's a lot of attention to that kind of stuff, platform cities, but the problem is not just like, "let's build our house a little bit higher and we'll be fine." The problem is airports, the problem is roads, the problem is all this coastal infrastructure, sewage, a huge problem for a lot of places. New York is very vulnerable in certain places, the Rockaways, South Brooklyn, Lower Manhattan—but Lower Manhattan they have a lot of money. It's the most valuable real estate in the world; they're going to build a giant wall. They don't like to call it a wall; they call it a barrier with amenities.

[LAUGHTER]

So you'll be able to get your Starbucks as you watch the tides come up. And Boston will be—the Back Bay of Boston, basically anything that's built on landfill, the new Facebook headquarters, gone. I mean, you know, anything that's on these landfill places are really in trouble.

Ross: So why do people keep building on them?

Goodell: Because they haven't computed this and for some people and for some places, you know, if you think, oh, I'll be okay here for 20 years—it depends on what your kind of time horizons are. But if you're an investor or if you're an urban planner or if you're thinking seriously about the future of a city, then these kinds of things are huge factors. Because what's going to happen—it's not like it'll be a problem where, you know, the sharks are swimming through the lobby of the Fontainebleau. That's not the issue here. The problem is as one mayor of a coastal city described to me, "This death by 1,000 cuts." Even this is a great example, just small changes of erosion, small changes will have a huge impact on how people think about their coastal real estate and once you factor into your value and how you think about where you live on a coast and you realize that this sea level rise is real; it's not a speculative thing. When it comes to climate change, it's the one thing we know that is going to happen; we just don't know exactly what the rate and pace of it will be. It's going to have an impact on coastal prices, real estate prices. And as those decline, so will revenues for taxes at exactly the moment when cities need the money to start building seawalls, other kinds of adaptation things. So it becomes a kind of downward economic spiral but will hit places very soon.

Ross: I think you said in your book, \$700 billion dollars of economic risk in Florida alone.

Goodell: Yes, yeah.

Ross: So how do we fix this? Because as I was reading the book I kept thinking that our future, well, the future of cities, is one in which pretty much only the rich people and also the rich cities survive and the rest of them are pretty much screwed.

Goodell: Well, I mean certainly, you know, two things that matter most in this are money and elevation, right? So you have money you can build structures of defense and you can move away and if you have elevation you can—you're on higher ground then it's less of an issue. So certainly cities, you know, Seattle, for example, will be far better off than Miami will be. And I think that as this sort of begins to percolate into the sort of awareness of what's going on in our world—we talk a lot in this conference about disruptive change. I mean, Mother Nature is putting this sort of mother of all disruptive changes coming towards us right now. And so certain places will do better than other places and I think that—one critic called my book, "Strangely optimistic," because—

Ross: I didn't get that.

[LAUGHTER]

Goodell: I would say, "Very strangely optimistic." But I do think that we have this idea and this—again, right out here was a great example, is we think of our world as fixed. We talk about our dynamic economy but we don't talk about our dynamic nature very much. And one of the things we're learning with climate change is that our world that we live in is very dynamic and our coastlines especially. Coastlines, you know, move. Beaches move. The reason—you're going to Miami Beach next week, the reason there's a beach in front of the hotel you'll be

staying at, wherever that is, is because they truck in a bunch of sand every year. If it was up to nature, those would be limestone crags there but they're keeping the sand there. But that would be increasingly difficult and more difficult to do. But I think that we're going to find new ways of living with water. People love living with water. You go to Venice you see like, wow, this is a great city on water. And you can imagine us reinventing our coastlines but it's going to come after a lot of destruction.

Ross: So I do want to go to questions but I want to ask you one. I think I know you do fear or worry about the issue of climate refugees and what all this water will do in terms of displacement of people. So can you talk about that a little bit?

Goodell: I think when we talk about climate change impacts whether they're droughts or rainfall events or weather patterns or sea level rise, we often think about the direct impacts like I'm talking about with real estate and things. But it's this sort of secondary impacts that I think are going to be really consequential and refugees are a great example of that. You know, we see that already, right now with what's happened in Puerto Rico and people moving to the mainland. We see that in low-lying areas of the Gulf right now. I was with my daughter. We were visiting the Grand Canyon and we were driving on Route 66, the old road that they fled from the Dust Bowl to the West on and there was a couple of cars stopped that said, "We're fleeing Harvey." And I talked to them, they were like the new Joads, they're like, "We've been living on the coast, we're sick of being flooded, we're getting out and we're moving." And there's going to be a lot of that. I mean, one recent demographic study showed 2.5 million people being displaced out of just Florida. And then you start thinking about places like Bangladesh and when you amplify this—I went to the Marshall Islands and—

Ross: Are they still there?

Goodell: Sorry?

Ross: That's still there.

Goodell: For now. For a little while. I mean, they're lucky they have this—because we bombed them so badly and used them as, you know, guinea pigs in the nuclear age. They have a pact where they can come to the U.S., so they have a place to go. But still they're facing, as the foreign minister told me, "An existential crisis." They're not just going to be displaced; they're going—everything, their nation will be underwater.

Ross: I'm going to go to questions. I'm going to go to Amanda.

Little: Hi, such a pleasure to hear these insights. I admire your reporting and have followed it for years. There's a passage in your book where you describe your interaction with President Obama and you had several hours of interviews with him about his strategies in climate policy. Can you walk us through that and you really push him to defend his strategies on climate policy. But what was that like and how much do you think he ultimately accomplished on climate legislation?

Goodell: Well, so I went to—I was lucky enough to go to Alaska with President Obama in September of 2015 as he was trying to build support for the Paris Climate Agreement. And he wanted to bring a journalist with him to go to Alaska and highlight the risk because Alaska, of course, is a kind of poster child for both the dependency on fossil fuels and the fact that the whole state is melting like a popsicle on a hot summer sidewalk. So we went up there and I was lucky enough to be able to sit down with him in this eighth grade classroom, just him and I, above the Arctic Circle and talk for an hour and a half about climate change. And, you know, it was really remarkable to be able to have this one-on-one with President Obama. I think that my biggest disagreement with his strategy was—he understood the urgency of it, he understood the science. I have a really good kind of bullshit detector for people who think they understand climate change or energy issues but they don't really and they are pretending, especially politicians, and he is not one of them. And he totally got it and totally understood it. But his political strategy was different. He understands the urgency of it but I was like why aren't you pushing harder? You understand how—as he put it, this is a problem where there's such a thing as being too late. And he got that. But I don't think that he pushed hard enough. He certainly bailed in his first term in a profound way on this one. He had a great opportunity to get legislation through. And, you know, he basically said to me, if I push too hard on this I think there's going to be a big backlash. And sometimes the shortest distance between two points is sort of a zigzag. And so he was trying to sort of, you know, strategize about this.

And I think he totally blew it in the first term and had a great opportunity to get a carbon legislation, a carbon tax of a cap and trade legislation through and didn't do it, chose healthcare instead which was a judgement you can make. But I think that, you know, getting the Paris deal done and bringing China into this and really making China a partner in this was huge. And even though we all know what's going on with the Trump administration, I still think that what was accomplished in Paris will pay dividends. I still think that we're not doing anywhere near enough, fast enough. Nobody has grasped the scale of this problem. You know, we can all talk about renewable energy and electric cars and Tesla and all this great stuff and solar panels but there's only one measure that really matters in this, which is the CO₂ concentration of the atmosphere. It's measured at Mauna Loa and if you look at that over the last 30 years it's just this accelerating arc. There's no flattening, there's no bumps; we're just getting worse and worse and worse and higher and higher. So we're not even close to grappling with this problem.

Ross: Sorry, I want to give a couple of other people a chance for questions so I think there's one more here.

Kofinas: Hi, my name is Demetri. So you touched on the nonlinearities of climate change.

Goodell: Yeah.

Kofinas: Which to me are the most frightening because the most extreme events are the ones that cause the vast majority of damage and [Hurricane] Sandy, of course, being a great example. Could you talk to us a little bit more about that and could you also speak about the

effect that this would have, the life-altering effect, it would have on agriculture—where we grow our crops, how we grow them, the amount of sun and how that would be affected by change in climate.

Goodell: Right. I mean, obviously, subtle changes in rainfall patterns can have profound effects on where we grow our food and how we grow our food. And that's one of the things with the melting of the Arctic. It is, I would think, one of the most sort of urgent issues—as the Arctic melts it sort of wobbles into the jet stream and the jet stream is really one of the kind of controlling devices for monsoons. And as these monsoons shift, if they shift a few degrees left or right or up or down or whatever, it has enormous consequences for people who are dependent upon this rainfall for their food supplies.

And that begins this whole question of instability, political instability, that I think is the biggest concern about climate change. And with this nonlinearity—a great example of this, and I'll be very brief, is sea level rise. Because up until recently scientists said, okay, we have a big pile of ice in the Arctic, we have a big pile of ice in Antarctica and basically those are the two issues and land glaciers and stuff are not that important. So it's these two. And they could calculate—again, I'm really oversimplifying—but how fast these big piles of ice can melt, right? We can calculate, we can do physics, we can calculate that. But what they've recently discovered in west Antarctica is that these big glaciers in west Antarctica that are two miles high, some of them, are sitting on a ledge and the warmer ocean water is getting underneath them. And so what they've figured out is that they can calculate how fast it melts but it can collapse really fast and this water is getting under this ice sheet and destabilizing these big ice cliffs and they could collapse very quickly. And that's of rising concern. This national climate assessment that was on the front page of *The New York Times* and *Washington Post* just yesterday, that just got released, talks about this explicitly. And we know in the past, we have geologic records that show 13 feet of sea level rise in a century. So if we got anything close to that kind of rate it would be devastating and they think that West Antarctica might have been the trigger for that. So these tipping points are what are really the scary thing about all this and why there's so much urgency.

Ross: So sadly we are out of time but I did promise you that I would let you get to the hope part. So very quickly, where is the hope in this?

Goodell: Well, I think the hope is in the sort of reinventing our lives to live with water in the way that I talked about before and also embracing this notion of change. It's an ironic thing because this whole conference is about change. But I don't think we get it in the sort of bigger sense of how we live and where we live and that we live in a world now that's going to be changing very fast and we need to start thinking about that. And I also think that we've done a lot of dumb stuff on our coastlines and we'll get rid of a lot of that for better or for worse.

Ross: Great. Sorry we're out of time. Thank you so much.

Goodell: Thanks.