

The Future Is Calling Us to Greatness

with Michael Dowd + 56 Experts



Giving Prophetic Voice to Climate Science

with Joe Romm

Big ideas from this session:

- How Climate Progress became “the indispensable blog”
- Lessons on persuasion from Jesus, Lincoln, MLK, and Lady Gaga
- How to counter climate denial and avoid “hell and high water”

Michael: Joe, thanks so much for being able to be part of this conversation series called *The Future is Calling Us to Greatness*. I’ve been looking forward to this conversation for quite some time.

Joe: Thanks for having me. I’m very honored.

Michael: Joe, you are one of the main people, in fact you are the main person that I go to on a daily basis in terms of my information of what’s happening in the climate. Your blog Climate Progress is just an invaluable resource in my experience, and many other people rate it that way, too.

One of the things that I’m doing at the beginning of each conversation is inviting my guest, just in case there are people out there that aren’t familiar with you or your work, which I’m sure there will be, there’s a wide diversity of people that are going to be watching or listening to this.

Please take the first five minutes or so and just introduce yourself, what are you particularly known for, what are you passionate about, what are you committed to, your work in the world and how you came to this. Take your time and don’t be bashful, please. Help us get who you are.

Joe: Sure. I’m a physicist by training and I think I spent most of the last quarter-century on clean energy technology development and policy, in and out of government. Sometimes consulting, the private sector for five years. I worked at the Department of Energy in the Clinton administration on ultimately becoming Acting Assistant Secretary for the billion dollar federal agency Office of Energy, Efficiency and Renewable Energy.

Then I went on to work with businesses and non-profits, helping them design greenhouse gas reduction strategies. That continued until late August of 2005 when Hurricane Katrina destroyed my brother's home in Pass Christian, Mississippi.

He asked me if he should rebuild because he knew I had studied oceanography at the Scripps Institution of Oceanography. I spent weeks and months talking to leading climate scientists, going to as many seminars as I could, reading the literature. That's when I realized the situation was more dire than I thought and that climate scientists weren't doing a very good job of communicating it.

That's when I stopped doing the clean energy consulting and started doing communications full-time. I wrote a book *Hell and High Water*. I talked to a couple of places, but ultimately the Center for American Progress was the one most focused on communications and ultimately John Podesta who was running it at the time hired me.

I started writing this blog and I didn't know anything about blogs. It was 2006 and they were just starting to become popular. It turned out to be a good fit for my skill set. I was raised by professional journalists so that certainly has helped. One does have to meet a daily deadline.

For the last eight years I have been blogging, Climate Progress, first five years mostly by myself. Then with a Deputy Editor and now with a very large staff. Readership has continued to go up. Social media has been amazing. I think people know this is a good place to get both solid information but also perspectives from me and other people.

At the same time, in the last few years I've been working on getting the first ever climate docu-series on the air, the *Years of Living Dangerously*, which was broadcast on Showtime earlier this year. At the end of August won the Emmy for Outstanding Nonfiction Series.

Michael: I just want to jump in and say that not only was the series great when it aired, but Connie and I purchased the DVDs. Anyone watching this or listening to this conversation between Joe and I, get the DVDs for the *Years of Living Dangerously*. It's the best thing that's ever been done on TV on climate change.

Joe: Thanks. You can also now get them on iTunes if you just want to download them onto your computer and watch them there if you're not one of us older generation folks who still use these old-fashioned DVDs that someday your grandparents will explain to you about how people actually used to put discs into computers.

They also used to have phones that were stuck on walls and came in one color and you had to dial them.

Michael: All right, Joe, all right. I'm feeling old enough as it is.

Joe: Juts reminiscing about those.

Michael: Good old days.

Joe: Unimaginable days when people wasted so much time dialing the phone. We are working on a second season right now, working to get a distributor for a second series. I'm very hopeful that in a couple years or less we will put some more high quality stuff on the air when we'll learn lessons and it'll be even better.

I have transitioned from science to energy technology to mostly communications. That's what I've been doing full-time for many years now.

Michael: That's great. That's great. I'm really glad you focused on the climate communication. One of the reasons why I invited half a dozen major science communicators, yourself, Jim Hansen, Bill McKibben, Katharine Hayhoe who's just absolutely phenomenal. Susan Joy Hassol, Marshall Shepherd. What you all have in common is not just a passion for the future and a real deep knowledge of the science of climate but an ability to communicate it in ways that get through the noise.

In fact, I want to just also recommend Joe's book. You wouldn't think a guy who's a physicist and a climate writer would necessarily have written but it's called *Language Intelligence*. What's the exact subtitle again, Joe? I don't have it in front of me.

Joe: *Language Intelligence - Lessons on Persuasion from Jesus, Shakespeare, Lincoln and Lady Gaga.*

Michael: In my opinion it is the best introduction to rhetoric and the power of using language powerfully. Get that book, read it. It's also available on audio.

Joe: You can get it on audio, you can get it on Kindle. I worked on that book for like two decades. It really evolved from books on Shakespeare actually which is one of my hobbies. One of the things that bothered me over the years as I was working on it is the way to be persuasive was figured out 25 centuries ago by the Greeks and then the Romans did more work on it.

It was elevated in English to a very high art by the Elizabethans who gave us the two great works of rhetoric which are the *King James Bible* and *The Works of Shakespeare*, which is why if you go to quote books a quarter of your quote books are from those two sources. That's how you do a memorable speech, in particular, quotes that we all know and love.

It isn't really taught anymore, although modern social science has figured out that this stuff works. Which is why ads use the figures of speech, which is to say puns and metaphors and repetition and rhyme and all that.

One of the things that frustrated me about all of the books on rhetoric, of which there were 1,000 during the Renaissance, now maybe there's one or two a year, is that they tend to be written by a very academic way and totally counter to the spirit of what rhetoric was about. That's what took me many of the last years, was making it readable. I had the input from a lot of people to do that.

Yes, I think as I say, two things. One is everything you learn about communications as a scientist and perhaps for most of higher education in general is use big words, don't repeat yourself and be as literal and fact-based and number-based and graph-based as possible. That not only isn't good advice, it's the exact opposite of correct advice. It did take me 20 years to unlearn that. It's still not natural.

For me to write a really good speech or a blog post I have to put work into it. It doesn't flow naturally. It is the way that 95% of people talk and absorb information. Everybody has to unlearn that but you don't have to reinvent the wheel. It was already figured out and I try to lay out some of the basics.

I do think, look, the single activity we spend the most waking hours on is persuading people. Yet nobody really studies that in school, even though we know how to do it. It's sort of like if you went to MIT, which I did and studied physics, but they didn't teach calculus. It's just the basic underpinning.

Obviously people who are preachers, people who have been good at it and people who I write about, Martin Luther King, preachers who study the Bible which is a textbook of rhetoric, they acquire the ear for it. That's why you get to hear it in church and if you read the Bible every day then you're exposed to it. There are different ways. If you did nothing but to go Shakespeare plays the same exact thing would happen.

I think that this notion that people are born with the gift of gab, that's really not true. There are cultures that emphasize this, like let's say the Irish. It's the basics of storytelling. Cultures that revere storytelling, we think of those people having the gift of gab. In fact it's just because they're exposed to it over and over again.

Michael: Amen. Has anybody done the work yet of those of you who really focus on and specialize in and are bringing this, some of the names for example that you've used, just the phrase hell and high water or dust-bowlification, has anybody collected, the Joe Romms and the Katharine Hayhoes, and the really powerful names and mantras and metaphors and put them in one place? Do you know if anybody's done that yet?

Joe: I think that what would be useful to do and I might try to do at some point is to collect certainly the metaphors. There's a metaphor that's become more widely used on extreme weather about the climate on carbon pollution is like a baseball player on steroids. I think that's a very good metaphor because you don't say that the steroids cause an individual home run, but if all of a sudden instead of just a handful of players getting over 40 home runs a year you get dozens, then you know you've altered the statistics.

As I say in the book, I think the single biggest thing anybody could do to be more memorable and effective is to use more metaphors. I think that there are a lot of good ones out there. I certainly have tried to use them. Hell and high water didn't catch on. We're still stuck with the abstract terms of global warming and climate change. Neither of which give anybody really a visceral feel for what's going to happen.

Unfortunately climate change isn't abstract anymore. Ten years ago this was more about scientists saying, "Trust us. These things we're telling you are going to happen will happen. We should try to prevent them." Now everything scientists said would come true did come true. We have the worst heat waves, we have the worst droughts, we have the worst super storms, we have the worst storm surges, sea level rise is obvious, glaciers are melting faster than we thought.

Now they're saying, "Please pay attention because if we keep doing nothing then what we're seeing now is just a taste of what's going to happen." Now obviously people have seen what happened with Hurricane Sandy. People are all around the country just seeing what's going on.

Michael: One of the books that I'm just now listening to, unfortunately I didn't think to ask her to be part of this series before her schedule completely booked up. That's Naomi Klein, her new book *This Changes Everything*. I'm just loving this book, absolutely loving it. I recommend everybody watching or listening to this, get Naomi Klein's *This Changes Everything*.

Joe, what inspires you on a day-by-day basis? What either scientifically or religiously or philosophically? How do you think about things such that you wake up each morning in the face of some really scary stuff and are in action in the way that you are?

Joe: I was fortunate that I worked at the Department of Energy for five years and worked with businesses there and afterwards on developing and deploying clean energy technologies. I wrote a book in 1999, hard to believe 15 years ago, called *Cool Companies*, which was 100 case studies of the best companies from Toyota, GM, whatever, who could reduce their energy and greenhouse gas consumption in buildings and factories by like 50% or more while saving bundles of money and often increasing productivity.

There's been a lot more work on that lately. I know for a fact that the United States, all the rich countries could easily cut emissions very, very deeply over not too long a period of time. Not only would the cost be low but the co-benefits, the benefits would overwhelm the small costs. Not even counting the benefits of avoiding a catastrophic climate change.

By the way, the International Energy Agency has said the same and so has the literature review by the Intergovernmental Panel on Climate Change, which is signed off by all the governments in the world. That basically said that you could hit the 2 degrees Centigrade target for a net cost to growth of 0.06% per year. Off of what was growth of 2.5% per year. You wouldn't see it on the growth curve.

I know that there's some dispute about whether growth is compatible with avoiding catastrophic climate change. I've written about that in regards to Naomi Klein's book. In fact, I'm going to write a couple pieces on that next week.

I think there's a great desire to pigeonhole and undermine the legitimacy of environmentalists and others by saying we're anti-growth and anti-capitalism. It's very tempting but it's really a perniciously backwards argument. Much like Roosevelt saved capitalism from the excesses of the 20s, the people who want to keep doing what we're doing aren't pro-growth, they are pro-collapse.

Michael: Yes, exactly.

Joe: Know there is no path in which we keep doing what we're doing. That is the one thing we know for certain. I can't tell you what the economic system, the agricultural system, the energy system is going to look like exactly in 50 years. I just know it's not going to look anything like it currently does or else large parts of this planet will simply be uninhabitable.

Michael: Yes, exactly.

Joe: We will have billions and billions of people needlessly suffering and cursing our names. I don't think that's going to happen. I think at the end of the day the human species is smart enough to stop that from happening. It's clear from the other Naomi's work, Naomi Oreske's, that the forces arrayed against action are enormous. The status quo has a vast stake in the current system.

The energy bill of the United States alone is over half a trillion dollars a year. Sometimes it goes up to a trillion a year. That's income to companies who are benefitting from the status quo and, like the Coke brothers or Exxon-Mobil, have never been shy about spending it to protect their interests.

This is the epic struggle of our time. I'm optimistic because I know we could do it. I know the technology is there, for sure. I worked on the technology. I know that in the past this country has had the willpower. I wasn't alive at the time. My father and mother were. What we did in World War II in nine months, we shifted from making the three million cars a year to being the arsenal of democracy.

I was just talking about this with someone yesterday. The thing people forget about World War II, at least from the American perspective, is we did all the sacrifice. We stopped buying new cars, we collected scraps of rubber, all the war effort, everybody went to work.

Michael: Victory gardens.

Joe: We sent hundreds of thousands of troops overseas, we sustained big casualties when we weren't particularly in danger. Yes, Pearl Harbor had been attacked but we were basically doing this for people that 95% of Americans would never, ever meet. Then we did the Marshall Plan. Again, the same thing.

This notion that we can't take the big I don't even like the use the word sacrifice because in the end the benefits are obviously worth it. It's not more a sacrifice than my saving money for my daughter's college education. How is that a sacrifice? It's not. It's what any parent would naturally do.

The question is in this case we're parents to the next generation and 50 generations after that. Then there's all the children who have nothing to do with this. The sad fact is that we're going to suffer from it and our children are going to suffer more. The people who suffer the most didn't contribute to the problem at all.

That's where the issue of morality comes in. I try to talk a lot about morality because the staggering immorality of our unwillingness to literally spend a teeny fraction of our staggering wealth to avoid what scientists say is going to be centuries of unending rise in sea levels and dust-bowlification. I just wrote a piece yesterday on the literature.

It's unimaginable. The plausible worst case today, which is really just business as usual, I can't even think of what the real worst case is anymore because business as usual is just so bad. No species could rationally knowing what we know actively pursue such a path.

That's what keeps me going. I am very, very well aware. People ask me all the time about how does one deal with the fact that there isn't a lot of movement in this. I certainly have been heartened by the events in the last year or two, the Climate March, what went on in the UN last month.

The world has never done anything like this. The closest we did was save the ozone layer and that was a close thing. If you read the recent literature we almost didn't do it. Another thing people forget, what was the first step that was taken to help save the ozone layer? Your younger audience will not remember this at all but the US voluntarily banned chlorofluorocarbons in spray cans.

There was this little bit of, "Oh my God, my hair spray isn't going to work anymore." Yet it all seems to work just fine. We did it voluntarily, as did the Scandinavian nations. That was so crucial both in dramatically reducing demand, in sending the message to businesses to develop alternatives and to showing the world that leadership doesn't require, "We're not going to do it until you don't do it."

That never used to be the mentality of this country. It just never used to be. If that had been the mentality of the founding fathers, we're not going to do it until you do it, it's just hard to imagine that we would ever be where we were. Needless to say, on the religious side the basis of the Bible is do unto others as they have done unto you or love thy enemy, whichever place you turn to it's not I'm not going to do it until you do it. That's just not anybody's founding moral principle.

That's the principle of selfish people, of teenagers really. I can't say that I'm certain we're going to solve this problem. The history of the human race doesn't allow one to make that statement with certainty. I can say with certainty we can definitely avoid the worst impact of climate change. People would be stunned at how negligible the cost was compared to the myriad benefits.

There certainly are examples in American history and history where we have done things as big as this.

Michael: Yes. One of the phrases that Paul Gelding uses that I like is toying on the quote from Churchill that Americans always do the right thing after exhausting every other possibility he says, "As a species we tend to be slow, but we're not stupid once we realize what is truly at stake."

I appreciate what you wrote a few days ago on the two degrees or not two degrees, that we shouldn't junk that. When I started reading it I was hopeful thinking, "Oh, wow, we're finally going to get real that we need to have something closer to one degree than two." I realized that's not where that was going.

What have you found the most effective ways, Joe, when you speak in audiences where climate deniers are still there? What have you found the most effective ways to communicate to those who either they're paid by coal, oil and gas to be deniers or they're people who have been influenced by them by watching FOX News or whatever?

Joe: I think that as a communicator your first responsibility is to know where your audience is at and speak to them. You don't say the same thing to an audience of scientists, if I spoke to an audience of engineers, that I would say to an audience of lawyers or religious people, which I've certainly spoken to.

I also think, however, that you have to always optimize your effectiveness. I am not the best spokesperson to talk to conservative groups. My value added in trying to persuade those groups is very small and my success rate is not that high. I tend to focus either on providing the best information to the people who already understand the science or persuading the persuadable.

I think that for those groups people have to find the right messengers. Obviously we now have a lot of retired Generals and a lot of retired Admirals who are very clear on the threat. Some of them, Admiral Titley who is worth interviewing I think, they've been quite blunt.

The Navy, all of the Navy's facilities around the world are built at sea level. They've been looking at the thickness of Arctic ice for decades. They've had data that wasn't released until recently. They're not in a position to be deniers. They have to deal with sea level rise.

Similarly, the military has to deal with what causes instability, what causes threat. Obviously our military these days, which is obviously the most effective fighting force in the world, is also used for a lot of humanitarian missions. Obviously we're not going to see a decrease in mega disasters. In fact, the data shows we've been seeing an increase in weather and climate-driven disasters.

I think getting those people, obviously. I think religious people are the best to talk to religious people. On *Years of Living Dangerously* we featured Katharine Hayhoe, the famous climate scientists who's also an evangelical Christian. She's very good at speaking to an audience that shares her religious perspective.

I do study social science and communications theory a great deal. It's certainly the case that people have group identities and by and large they are more persuaded by people who are seen as part of the group than people who are seen outside of the group. I don't think that's ever been different in human history.

It's why certain people give testimonials for products. Either they're credible, they're a doctor, or they're like us or they're somebody we admire. That's just the way it is. Nobody's going to put up Bernie Madoff as a spokesperson. You have to find the people who are respected by that group.

The good news is more and more people are becoming aware. We worked with one of the Executive Producers of our series was Arnold Schwarzenegger, the two-term Republican governor of California who led the way towards what is now the most ambitious state effort to cut carbon pollution.

They have been a leader. Obviously California has been a leader in energy efficiency, been a leader on renewable energy deployment, now on greenhouse gas reductions. That has sustained through Democrat and Republican administrations.

It's unfortunate how much the identity politics of this country are driven by a really pretty small group that mostly has influence inside the beltway. I'm not dismissing the views of people who are Tea Party or right-wing conservative. If you actually talk to most people, even fairly conservative people, there is as I'm sure you know because you do talk to them there's actually a much greater consensus on things we should do.

You get these extreme groups like the American Legislative Exchange Council, which funded by fossil fuel companies and others actually tries to reverse renewable energy portfolio standards that exist in over half the states. Those standards have strong bipartisan support. It's been difficult to see that roll back in any state except the one you're currently in, Ohio.

This is ultimately going to be part getting a leader like Churchill and part it's going to be people power of the kind that we saw at the remarkably large and influential Citizens Climate March. The two hopefully are going to meet at some point relatively soon.

Michael: Actually there were 20 of the 40 full-time marchers going from Los Angeles to DC, having left Los Angeles March 1st and the schedule is to arrive in DC on November 1st. Of the 40 total I think 25 of them took a bus from Toledo to New York City, participated in that event and then took a bus back and are back on the march again. It was said that the longest march meets the biggest march, or something like that.

Joe, one of the things that I wanted to ask you is if you were speaking to somebody, obviously yes one of the reasons I recommend Katharine Hayhoe and Bob Inglis so much in conservative circles is because they can speak with the values and are recognized as in-group in evangelical and Republican settings. When you speak to people, say in the over 60 crowd, what would be the core thing that you would want to say to somebody 60 years old and above?

Then a separate question, what would you say to somebody in the under 30 crowd that's just overwhelmed by the challenges?

Joe: A lot of the talking I do now, my goal in public speaking, I don't do as much public speaking as I used to because I can reach a lot of people just sitting at home. I obviously

can write something that tens of thousands of people can read, and potentially hundreds of thousands will be exposed to on Twitter and Facebook. One post I wrote recently had 15,000 plus Facebook likes. A lot of people are seeing part of the post, at least, that way.

It's partly why my goal is not to persuade people to some political movement anymore. We are past that. Everybody needs to know about climate change because it's going to affect you, your family and major life decisions. Were you thinking of retiring on south Florida in 10 or 20 years? Were you thinking of retiring in Arizona in 10 or 20 years? May want to reconsider that plan. What about were you going to buy that coastal property you were thinking about?

Again, I've written posts on when will coastal property values collapse. There's no question at some point over the next 30 or 40 years no one will be able to sell coastal property. You won't be able to insure it, no one will buy it. You will own it until it is destroyed by a storm surge and then you won't build it again.

I cannot tell you whether that happens in 10 years or 20 years or 30 years. It is just inevitable. It's particularly inevitable if we don't act soon. It becomes inevitable not when sea levels are actually five feet higher at the end of the century, but when the smart money understands we've dawdled for too long and that's inevitable.

As I often say, the only reason people still build and the main reason I think people still build and buy stuff in Florida is that you can't get flood insurance. The state is the provider of last resort.

Michael: Connie is constantly bring that up both in individual conversations and with groups. Jimmie Carter tried to institute where if you live in a coastal area or flood plain and you're destroyed by a flood or storm surge or whatever, that you're given the money but you can't rebuild there, you have to build elsewhere. That was defeated. Now we've got this insane situation where people are allowed to build back in the same places.

Joe: We do. Congress tried to change that and fairly wealthy coastal property landowners had a lot of pushback. In Florida there's the rebuilding part and then there is the ability to get insurance. That is definitely getting a lot harder. Florida, the state of Florida, is the provider of last resort. They're only doing it because they know that if a category four or five hurricane hits Miami and it's a 100 billion dollar storm they will just declare bankruptcy and you and I and everyone watching them will bail them out. Which could happen maybe once.

The point is this game, this charade, will not go on forever. It's only going on now because people have not internalized the reality of the sea level rise coupled with the storm surges and the super storms. Again, that will all change.

As I say, everyone needs to know this. There's no escaping climate change. Everyone's going to have to decide obviously where they're going to live, where they're going to retire, what businesses do they go into, do I want to rebuild the home. It's one thing to rebuild the home just because you have the money. Nobody wants to live in a place that's going to be destroyed every 10 or 20 years. I haven't lost my home but my brother did. It's a very life-shattering event. It's devastating. Once people realize that.

The same with drought. If you think drought, there was the great PBS series on the dust bowl and the mentality for the year after was this happens but it always gets better. After a few years of the dust bowl people gave up and the Okies moved to California. The dust bowl of the 1930s only lasted eight years. There were three terrible years and the years in between were moderately dry. I just went through those numbers for my post.

We're looking at in the coming decades where dust bowl length droughts become quite commonplace there's a 50% chance that places like the southwest and California and the central plains will get a 30-year drought this century. Just totally mind-boggling stuff.

The point is that we will be moving from an era that we're now in, which is the era of extreme weather, to the climate has actually changed. Then after a while you don't call a multi-decade drought a drought, you now live in a desert.

Historically in the history of humanity, desertification has been civilization destroying. Half of the great civilizations were destroyed because of a shift in precipitation. Those were driven by certain things, sometimes really bad agricultural practices. Certainly really bad agricultural practices made the dust bowl much worse. Really bad agricultural practices have set civilizations up for a period of reduced precipitation that then was fatal.

That's why, as I say, the word desert, I always say this, the word desert, same origin as to desert a place. The origin is an abandoned place. That is what it originally means in Latin or Greek.

We're now entering the age, as Churchill said, of consequences. Everybody needs to know about climate change whether they're Democrat or Republican, whether they're going to become politically active, whether they're going to support a carbon tax or whether they're going to support politicians who oppose it. I'm not saying it doesn't matter anymore but from your individual perspective you need to know this.

To people under 30, I've given a lot of talks to colleges, there my talk is about this is the future. I was fortunate. I went to MIT in the '80s. People didn't know exactly what was coming but the internet was built around the ARPANET. At MIT we had networked computers, we had computer screens. They were still dumb terminals but people had an idea what was coming. Obviously a lot of people at MIT went to work for Microsoft or whatever.

If you knew the future you would make a lot wiser choices in school. There are an unending stream of occupations that unfortunately are going to become that you can build a career around. If you are an expert on levies, flood protection, the Dutch are making a mint because the Dutch are advising everybody. They've done it first. If you were to become an expert on water, water is going to be one of those scarce things.

A low water agriculture, sustainable agriculture. Feeding ten billion people, seven billion then eight billion then nine billion then ten billion people in the coming decades will be the single biggest challenge humanity has ever faced.

Again, I think it's important for young people to know the world that they're going to be living in. They also have to choose where do I want to live, what career path do I want to choose and where do I invest my money. All of these life-altering decisions.

Like I said, if you knew 30 or 40 years ago what the world would be like today in terms of information technology and internet, anyone in your audience would be sitting pretty today because you would have chosen, "I'd better become knowledgeable in computers, I'd better follow the latest upgrade, I should try to understand how to do word processing, spreadsheets, whatever it is whenever they come along because they're not fly-by-night things that are going to disappear." The same is true of climate change.

Climate change is just going to become bigger and bigger until it overwhelms all other issues in the 2030s and becomes the driving force of all human activity. It's not a matter of scaring people. We're totally, totally beyond that. We're at the point where everybody has to prepare. We have to do our darndest as a species to minimize future impacts by mitigation.

We are increasingly stuck with a set of consequences whose full impact even I spend a lot of time thinking about it and it's very hard for me to see how the transition goes.

Michael: Yes, exactly. One of the things that I use as an example, I say if you were a farmer at the year 1,000 and you didn't plant your crops because you believed that Jesus was coming back, you and your family and your descendants suffered and perhaps died. It's not like what they did in some parts of Europe in the year 1,000 profoundly negatively impacted us 1,000 years later. Yet what we do in the next decade will have that kind of an immense impact.

Joe, beginning to wind down here. What do you have to say on this theme that the past is rooting for us and the future is calling us to greatness? This sort of mythic mindset that's really the heart of this conversation series, the sense that our ancestors struggled and sacrificed and had they not we wouldn't even be alive. When we hold that in our hearts we can be inspired to forego certain pleasures or comforts or wealth in order to be a blessing to the future.

This sense that the future is calling us to greatness, I keep a picture of my granddaughter by my computer as the embodiment of the future calling me to greatness. Anything you'd like to share on this theme of the future calling us to greatness.

Joe: I gave a talk recently in Virginia so I talked about Thomas Jefferson, somebody I've written about a lot. At the end of the day the great social movements have all been about morality and justice for some group that was somehow disenfranchised or discriminated against. Obviously slavery was the worst of the worst abominations but we've had the women's suffrage, we had to obviously have civil rights, we've had now LGBT, marriage equality.

There is one group that is totally disenfranchised and completely discriminated against. That, of course, is future generations. The unprecedented nature of climate change compared to so many other problems, I grew up Hudson Valley near the Hudson River which was so polluted you couldn't fish or swim in it. Those problems get so bad you make a decision to clean up the river, ten years later you do.

Most problems are not irreversible. Climate change happens to be one that is. It has a lot of delays in the system and the changes that we get can't really be reversed on a century time scale.

There's no question that when you talk about irreversible change you are talking about a moral consequence that is much, much graver. It is this question at the end of the day of intergenerational equity. This is something we don't talk a lot about today but our founding fathers did. I cite this letter from Jefferson to Madison. He wrote Madison a whole series of letters.

The last one was on what seems like a simple question. Jefferson obviously a farmer looked at things from a soil point of view. There was this legal term called usufruct.

Michael: I love that word. One of the things I'm preaching now is we need to resurrect the term usufruct.

Joe: Which is so great but so obscure you can't even really talk about it, you just have to explain it. The question can be thought of simply. To somebody who "owns their land" do they have the right to destroy their soil so that future generations simply can't make use of it? That question, which has a very, very long legal history, was kind of obvious to Jefferson.

Clearly if the current generation extracted wealth from their soil in a manner that rendered the soil unfit for future generations you would render your nation uninhabitable. The fact is that even with private property, even with "ownership of the land" the question is can the current generation have a right to eat up the whole soil of their country in the course of their lifetime at the expense of every future generation?

As Jefferson said, everyone will say no, that the soil is the gift of God to the living as much as it has been to the deceased generation. It is self-evident. It is a self-evident truth of a high moral nature as much as life and liberty and the pursuit of happiness. I cannot deprive future generations of the sustainable use of soil and the crops and whatever they could get from that soil.

That is obviously by extension to our water, our fisheries and, obviously Jefferson couldn't know about it at the time, our whole climate. It is such a matter of morality.

Michael: It's an evil. I use that word as a preacher. It is evil to destroy the climate, the destroy the soil, to destroy the oceans. If anything deserves the word evil, pursuing our own wealth and benefit at the expense of countless future generations has got to count as evil.

Joe: Well, yes, Obviously evil is a strong word. I frame things more in terms of consequences. It is suicidal. It is a decision. This is a quote that I used from Elizabeth Kolbert, her great book *Field Notes From a Catastrophe*. The final sentence of which I'm recalling from memory, it may seem impossible to believe that a civilization could knowingly pursue its own self-destruction, but that's what we're doing now.

No one can plead ignorance anymore. The scientists, particularly in the last year or two, the American Association for the Advancement of Science, obviously the Intergovernmental Panel on Climate Change even though they do it in a lousy fashion from a communications point of view. In the United States the climate assessment, more and more scientists speaking out. Nobody can claim we weren't warned and nobody can claim we weren't told the solutions are here and they're not that expensive.

We're making a choice. That's what, at the end of the day, this comes down to. Morality is about choices. If people had no free will you wouldn't need morality. If people never had a choice morality would be meaningless. The reason morality exists is because every day every choice you make, not every choice you make has something moral at stake, whether you wear a red shirt or blue shirt.

These big choices have moral consequences. We let people know our moral nature by the choices we make. That's the only way they could. Not by what we say, it's by the moral choices we make or don't make. That's the only possible way anybody could know whether you're a moral person or not. Obviously you could speak the greatest morality but be a felon or harm people and that's all that would matter.

Future generations are totally going to judge us by the decision that we make this decade. Man, they are not going to judge us well if we keep doing what we're doing. I tell people this. I think we're living longer these days which is a blessing. The curse of it is that a lot of people alive

today, most of the people I speak to, are going to be alive to see just how wrong they were in dismissing scientists and dismissing Al Gore and all those people that they pigeon-hole as being part of a group that's an other and not part of their group.

They may not like those people. It's funny how scientists ever got placed in those groups. It's very perverse because nobody would live their life the way that they are trying to impose on climate. In other words, if a doctor said to you, "You've got a cough and you're smoking. Here are the things that you're going to get. Here's what's going to happen in the next ten years symptom-wise." Or if you over eat and you're pre-diabetic and they say, "Here's what's going to happen if you keep on the same diet. Here's what's going to happen, here are the symptoms."

Ten years later you come back, "I have these symptoms, doctor, that you actually told me I would get. I didn't change my behavior yet and now I get tired at times." You're getting early stage diabetes. Then the doctor says, again, "If you keep doing it now you're getting to the point where the serious health consequences kick in."

You might get a second opinion but you wouldn't get 97 or 30 opinions more hoping to find the one doctor who says, "Keep doing what you're doing, you're fine." Nobody would live their life that way. If it were your kid it's then even more immoral because the kid can't make the decision for themselves. You have to be extra precautionary.

Obviously it's most important not to take actions that harm people who aren't in a position to protect themselves. That's the greatest wrong that you can do. That's what we're doing. We're in the position now of ignoring the doctors who are saying your smoking is actually the secondhand smoke that's hurting people. When you go to sleep at night with a lit cigarette you can set your own house on fire but you could set the neighborhood on fire.

You have a moral responsibility. It's one thing to do what just affects you. There can still be immoral choices there. The immorality is so much graver and we're of course talking about billions of people, consequences that extend for hundreds of years, generations to come that you'll never meet.

I don't think we have done enough to explain the moral dimension of it, to explain the staggering immorality of inaction. There's nothing comparable. I don't want to compare it to other great immoral things because you can't. They were immoral and grotesque in their own way. There's nothing like this because there's never been almost a death sentence. It's not a death, it's a misery sentence that we will impose on billions of people. Some of them have been born, some of them haven't been born.

If there were a great preacher today like the preachers in the Bible, whoever your favorite is, it could be Isaiah, all those people who railed against what the current generation is doing, their

words would be so much more powerful. They would find metaphors and ways that I can't. Hopefully people like you can.

We haven't gotten the rhetoric that is comparable to the problem. In part because it's so hard. I'm sure you have this problem. It is hard to put your head around. It's easy to not want to think about it. I appreciate those people who don't want to think about it.

As I sometimes say, the job of the intelligencia and the political establishment is to identify problems in advance, ask the experts to study the problem, tell them what to do and report back. They do it. We did every one of those with climate science.

That's what the Intergovernmental Panel on Climate Change was. The world governments told the scientists to please report on what the scientific literature says is the problem, what's going on, what's going to happen in the future, what can we do about it. They've been doing it over and over again. We have just skipped that last step.

The notion that we could only wait to act until every American is expert on climate change, on what's going on in Syria and Iraq, on Ebola, that's not the way democracy was ever supposed to work. The average person couldn't be expected to become an expert on climatology, on what's going on in Syria and Iraq, on Ebola. That's the whole point of having the representative government.

That's why the representative government sets up bodies like the Intergovernmental Panel on Climate Change, which is a collection of top climate scientists and other experts in the world who repeatedly report out what the science says about what's going on, what's going to happen in the future, what we can do about it. They've been doing that repeatedly.

We are being let down by our government, the media and the intelligencia and everyone else. It's particularly embarrassing to hear any politician when asked about climate change use the phrase, "I'm not a scientist." Politicians aren't doctors, they're not immigration experts, they're not anything. They set up bodies of experts to get that advice. We've set up such a body. We've been given the advice.

Let's not forget the National Academy of Sciences was set up by Abraham Lincoln, as Neil deGrasse Tyson, I think, likes to point out. We have bodies here. They are screaming like their hair is on fire. The time is now to act.

Michael: Amen. When I read Shawn Lawrence Otto's book *Fool Me Twice: Fighting the Assault on Science in America*, I felt the rage that I'm sure Muslims feel when the Koran is dissed. For me, evidence is modern day scripture. We religious people need to voice that kind of thing.

Joe, one last question that my wife has asked me to ask everybody. That is quite simply if you had the opportunity to invite any three people in human history to dinner or have a beer or whatever, who would those three people be and why would you choose them?

Joe: Well, that is hard. If it's just three. One of them has to be Shakespeare. That automatically fills up one plate. I have a lot of questions to ask Mr. Shakespeare about his plays and just how he was a very unique individual. Who else?

Obviously it would be very hard not to invite Jesus. If for no other reason than to find out what he thinks about what's going on today and what he thinks of certain people who are constantly speaking on his behalf today but seem to be doing the exact opposite of what he said in the New Testament. I'd be interested to know. Of course, we could do a selfie, maybe we could do a video thing. That would be quite interesting.

Michael: You might as well have Lincoln in there.

Joe: Of course, he doesn't speak English. That's the other problem. You have to add this provider so I can have a universal translator. Otherwise he's going to be speaking Aramaic. I'm not going to have a third person being an Aramaic translator.

There are a lot of people. Obviously you've read my book *Language Intelligence*. As a scientist it's still hard to say no to Albert Einstein. Simply a unique mind and also a guy who acted, who intervened at a time, wrote the letter to Roosevelt saying nuclear fission is a big deal and we need to get there first.

It'd be very interesting to talk to him, particularly if he could see what's going on now and ask him some questions. It's unfortunate we don't have any. Neil deGrasse Tyson's the closest but for a long time after World War II there were a lot of world famous scientists who had credibility and would speak out on issues. Linus Pauling comes to mind, two Nobel prizes, very close to getting three. Einstein and a host of others.

We don't have that so there's nobody who speaks really credibly for the scientific community. The last person who did was Sagan.

Michael: My greatest compliment ever came from somebody who thought he was criticizing me. He said, "Michael Dowd is like a cross between Carl Sagan and a Pentecostal preacher." I took that as a high compliment, frankly.

Joe: There's no question that if Sagan were alive today he would be outspoken on climate change and explaining it to the public in a way that only he can do and making the moral case for it, as he did when we got to nuclear winter. There's no question that he would be doing

that and he'd be doing it a lot better than you or me or any of us. He'd have the audience, the platform to go on *The Tonight Show* and all that.

Tyson, to his credit, has not been shy, not been reticent at all. If you saw *Cosmos* then you saw he was very blunt. He's been very blunt. As you know, scientists are very reluctant to engage in that level.

There you have it. It would be Einstein and Shakespeare and Jesus. Although, as I think of it, hard also not to invite Abraham Lincoln. Very, very hard not to invite Abraham Lincoln.

Michael: Yes, exactly. Joe, I want to honor you in a weird way. One of my dearest friends in the world, one of my closest male friends in the world was one of the true heroes of future generations. I know you knew him as well, Phil Clapp. The Bible sometimes speaks about some prophet being infused with the spirit of some former prophet who died.

When I hear you and I read your writings I sometimes imagine Phil's spirit living in you. I don't mean that literally but just your passion for life and your commitment to the future and your power with language. I just honor you so deeply in the work that you're doing and the work that Climate Progress is doing and just thank you for this conversation.

If people want to go more deeply into your ideas obviously your book *Language Intelligence*, your website Climate Progress. Any other resources that you'd like to recommend?

Joe: Well, obviously I think Climate Progress is a good place. I think the thing about this debate, if you want to get into it and I think all of us who understand it are morally compelled to, I don't think there's an option really, then you have to be able to answer all the questions that the deniers raise. That means you should go to Skeptical Science. You can download their app.

You have to be able to give the pithy answer when someone says, "There are these cycles." If you can't do that then you'll be discredited. Not only that, you don't just get it from deniers. Obviously that campaign needs to be successful. You can go to a party.

I go to parties all the time with just regular people and I don't usually mention, I don't bring up the fact, but if they ask me I don't deny it. It's not everybody's dream party guest to be the guy who's stuck on a plane for three hours with the climate change expert. He didn't sign up for that so I don't bring it up. If they ask, I tell them.

They're always bringing up these talking points. They're not part of the disinformation campaign, it's just the disinformation campaign has been successful. You have to be able to answer those questions.

If you're going to engage in this you have to go all the way. That's my only criticism of some scientists. It's fine to be glaciologists and go out in the public domain and talk about Antarctica and sea level rise, but you're going to be asked these other questions.

The public doesn't really make this specialization differentiation. It's the same for you, it's the same for anybody. I welcome everybody into the discussion but you have to be able to hold your own and not make our side look like it isn't as strong as it is.

Of course, you should get the DVD of *Years of Living Dangerously* or the iTunes. Really I've been involved in the project from the beginning. I have always been a big TV person, which is obvious if you read my blog. This is not just the great climate TV show.

What the producers did, former *60 Minutes* guys. The reason we won the Emmy is it's not like any documentary that's really ever been on before. It is really drama driven, human stories with astonishingly good cinematography. I've seen three of the episodes on the big screen. You would never know it was not filmed for the big screen. These guys know what they're doing.

It will just blow you away. There aren't any weak episodes. Some of them are just really going to blow you away.

Michael: Connie and I are right now watching it again. Joe, thank you so much. Blessings on your work. This has been wonderful. Thank you.

Joe: Thank you.

Michael: Bye-bye.