What follows is the full transcript to the interview with Wallace J. Nichols at COP20 in Lima, Peru.

Here we are in Lima, Peru in the phenomenal ocean exhibit. You've seen quite a bit of the conference at this point. What has been the most interesting aspect concerning oceans when it comes to the UNFCCC?

The main thing is the presence of the ocean conversation here, which has been either completely absent, mostly absent, or barely part of the conversation for quite a while. And now that's really begun to change. I think there's been a big effort to connect the climate change conversation to the ocean in a much more public way. I think it's good to see and good to be sitting here in this ocean pavilion talking about this topic. Certainly the main problems facing the ocean are not limited to climate change, but the ocean's role in the climate conversation is certainly central.

That hasn't always been the case. What do you think has really been the driving force for getting the ocean to stages like this in the last couple of years?

I think there have always been people who have, since Jacques Cousteau who really invented the ocean conservation conversation; there have always been groups and individuals working hard. But I think the effort to collaborate more, to use media better, to help people understand that the ocean is part of our lives, even if we don't see it, it is still responsible for what makes life on earth possible. And a bit of a shift rather than focusing primarily on biodiversity, which is a big part of the ocean message, I think having people understand that our lives are intertwined with the ocean. If we are breathing, if we are living, the ocean has something important to do with

that. And I think there's been more of an effort to describe the threats to the ocean in a way that connects to the average person's daily life, that's helped a lot.

What can an average person do at home now that we are getting this information flow?

You know when I'm asked what's the one thing people can do, I say, get in the water. Do not stop between wherever you are and the water, figure out how to get there, figure out how to get in the water. And that may mean the ocean, it may mean a river, it may mean a lake. But I think we've become less and less connected to our waterways and our oceans physically, and therefore emotionally. It's one thing to look at these beautiful photographs and these wonderful films, but what we know about how our brains work. Images are somewhat forgettable. You go and watch a movie, it moves you, you go outside and get a cup of coffee, and sort of move on, really forget relatively quickly. But full immersion experiences are often unforgettable. I just encourage people to get wet. Figure out what the safest way to do that, or the most fun way to do that, the most interesting way to do that is for you. Yeah, get in the water. Then, what happens from there remains to be seen. But making that movement towards full immersion or submersion, as the case may be.

That is one of the main points of your recent book (Blue Mind). Can you explain a little more about what blue mind is?

I use the term blue mind to refer to a mildly meditative relaxed state that people feel when people are at the water, or near the water, in the water, on the water, under the water, depending on how they interact with the water. It's the thing people pay for when they vacation on the coast. It's the thing people are looking for when they go out on a boat, even if they are going fishing or sport fishing. It's the thing people are craving when they are thinking about their

vacation. It's the context that people, may not actually describe, but sense when they feel like they are going to have a romantic moment of some sort and they feel compelled to do it near the water, so to speak. Maybe it's a proposal, maybe it's telling someone you love them, maybe it's a honeymoon. Then at the other end of our lives, a ceremony around someone's passing, someone's death, many times we are moved to move towards the water in some way, whether it's a lake, a river, a bay, or an ocean. There's this pull, these emotional important moments of our lives often have to do with being by water. The tradition of baptism in water, burial at sea, or scattering ashes over the water. And certainly the tradition of honeymooning by water. I know a lot of people who have proposed to their partners in the water, or near the water, or even underwater. And those moments just light up. So blue mind describes this set of feelings that we have and tries to connect some of the dots on the science, the psychology, and the neuroscience, as well as our cultural history related to water. And bringing that conversation through the front door into events like COP20. We generally we leave it out, if you walk around this pavilion you will not find the word cognition or cognitive, emotion, psychology, social, I mean all of this. I call it the cognitive, emotional, psychological, and social benefits of healthy water. These are probably the things that will save the ocean at the end of the day. And most conservation biologists would agree that behavior change is what this is all about. But if you ask them how much they know about behavior and change, pretty close to nothing as scientists. They know about ecology, they may know about policy, possibly economics, but real behavior change isn't just about laws and money and it isn't just about biodiversity and ecology, it's about neuroscience, our brains, our emotions. And very few conservation biologists understand the science of emotion. So I'm just trying to plug that in as another tool in the toolbox or a set of tools that we can use to restore what's broken or fix what's broken.

And how do you see blue mind, the set of tools, playing into a conversation at the international level, such as at COP21 in Paris? How could that be brought in?

I think the low hanging fruit is when we talk about what's at stake, when we talk about what we stand to lose when we get it wrong if we don't solve this set of problems that people here are working on that are very serious and very urgent. We usually talk about jobs, seafood, the oxygen, biodiversity, perhaps energy, and the mineral resources. But we don't talk about the cognitive, emotional, psychological, and social benefits of the ocean. So that the easiest thing, the first ask that I would put out there is to start talking about it. At least, put it in your reports, put it in your speech, act like it's real when you speak in public. Write like it's real when you write reports, because it is. These emotions and physiological responses to nature are quite real and measureable. But when we don't talk about them and when we don't write about them we are acting like they don't exist. You open a report on the blue economy and you find very little mention of this conversation. Therefore you may conclude that it's not real or that it's not important. And we all know that it is. I'd say most of the people who are devoting their lives to ocean conservation, protection, restoration, research, are doing so because at some point they fell in love with the way they felt when they were at the water. Generally, close to 100% of my colleagues fit that description. So we should talk about that, how that happens, what it means, why it hooked us so deeply, and led us to spend our whole lives to work on this stuff. I think it's a piece of the conversation; it's certainly not the whole conversation. So that's the first step, talk about it every time you step up to a microphone, be sure you mention the cognitive, emotional, psychological, and social benefits, services, values of healthy oceans and waterways. And if that's a sentence, great. If that's a paragraph, great. If it's a section of a report, even better. Include the citations that are available and just plug it in. That's the first step. Beyond that, it will proceed from there that there will be more research; the healthcare industry is starting to catch

on that healthy waterways by cities reduce stress. Stress is implicated in 60% of modern disease and illness. So if you reduce stress, you increase wellness. If you increase wellness, a lot of other good stuff happens. Employers are starting to realize that blue space and green space is good for their employees, for their company, for their bottom line. Parents and educators are starting to realize that blue space and green space are good for growing developing brains. So you do math better when you get to run around outside a little bit in nature. You come back and you score better on math. So you got to go down the list of all the real benefits that healthy outdoor environment has. It's referred to as green space and blue space. The best space is both green and blue, so some trees and some water. That's the basic idea. And this climate change conversation connects very intimately because the environmental issues that are leading us into this conversation connect very closely with the destruction of green space and blue space, or the limited access to it. If we put up sea walls because the sea level is rising, there is no beach to go on, there may be no access to the water. So that whole coastal dynamic begins to change. A long with the loss of biodiversity, the loss of food, the diminished capacity to produce oxygen, we will also lose a vast array of emotional and psychological services. Including relaxation, creativity, connectivity, romance, solitude, privacy, the list goes on and on, of all the things we get when we have access when we have access to healthy blue space.

So with all the negative impacts that are quickly approaching, the signs that more and more biodiversity is being lost, the sixth extinction. How do you personally maintain faith and hope of a future that is going to have this healthy, productive blue space?

I think I kind of live in a place of being in touch with reality, knowing that things are going to get a lot worse before they get a lot better. And we've known that for a while. I don't spend time

mentally in a fantasyland of this utopia that's around the corner, because it's not. Things are going to get much worse before they get better in any significant way. And at the same time, there is still a hell of a lot of beauty in the world. There is a lot of awe and wonder to be enjoyed and I try to do that as much as I can. And I try to do that in ways that invite other people to join me. So, the example that is most fresh in my mind, last night we were watching the film Fragile in the park. I was standing next to a boy who I hadn't met, but who couldn't see. So I snatched him up, stuck him on my shoulders, asked him "what's your name?" He responded with "Diego," I stuck him on my shoulders and now Diego could see this amazingly powerful film. And he was holding onto my head and I could feel his emotions through the way he was holding my head. And I could hear him say "wow" when I was thinking and saying "wow." He's seven years old and he almost missed the film, but I picked him up, stuck him on my shoulders, and he got to see. But he got to see it even better than he would have if he had just moved a little bit over. Then I asked him to join me on stage and to help present the blue marbles that we shared with some of the folks who were there. I was really nervous about that and he was really nervous, but together we were less nervous. And now I have a new friend named Diego who is seven years old. He had some physical challenges that may have caused him to not want to go on stage, he had only one arm. And I'm sure he deals with that in his own self-esteem. But there we were, Diego, another boy, Louise, and I on a stage talking about our little planet. That made me so happy to meet that kid, share that moment, and just know that I won't forget it and he won't forget it. I think it's the same thing every time I take someone and introduce them to a baby sea turtle and they experience that for the first time. They put a baby sea turtle in the ocean and experience all the awe and wonder, it's the best day of the year, every time, no matter how many times you do it. That just needs to be repeated times 7 billion, as often as possible. There are different versions of that, like going to the beach and cleaning up some trash and then seeing the beach clean for a moment and feeling really good about that and

being thanked for that effort. But I think the idea of switching the narrative into one of "hey, let's go. Let's go do something really fun and really cool. And jump on my shoulders," or "let's go to the beach and swim with baby turtles," or "let's go clean up a river, clean up some trash, and have a good time doing it together." I think that switching the narrative so it's a club that everyone wants to be part of rather than a club that makes you feel really bad, which is sometimes the case in these conversations. You feel guilty, you feel angry, you feel sad, you feel scared. And then you may not want to come back for more. That's how I stay optimistic by participating in that aspect of the environmental movement.

How do you think we as people, or governments at any level, can actually help the Diego's see the film, or help the people around the world who have a disadvantage in participating, what kind of role can governments play to make sure that happens?

Again, it's to start talking about it. If everyone who is engaged in this conversation made a commitment to themselves to do that X number of times a year. Say, "I'm going to invite someone who knows nothing about any of what we are talking about. I'm going to invite them to go with me to do something amazing. I'm going to pick that kid up and put them on my shoulders or I'm going to take them to the beach. I'm going to go do beach clean up and take a bunch of kids with me how have never been to the beach." If every time we have the opportunity to do that, we do it, rather of staying in our single club, that could create a big wave of support and whole bunch of new blood and a whole bunch of new enthusiasm and a whole bunch of new ideas. I don't know if that's a government job, but I think that the more that it's encouraged, the better. So even in an event like this, if there was a strong message that said, "come out to these pavilions and bring someone who hasn't even heard about this." Bring two people, two hands that you can hold. Surprise somebody, take somebody and jump in the water with them,

introduce them to the ocean that's right here if they haven't gone to the ocean ever. Just do it! It doesn't cost anything, it's not hard, all you have to do is say, "Hey, do you want to go with me? We're going to the beach. Let's get in the water." It's almost that easy. It may be let's get on the bus together, so it's an extra bus ticket. But from a financial point of view, it's not necessarily a huge barrier. When I say this kind of thing, people push back and say, "yeah, but what about the people that really don't have access and it really is hard to get to nature?" Sure, I agree, it's more challenging for some humans than others, but let's just start doing it where it's less challenging or moderately challenging. That's a key component. I think in the abstract, there's a lot of environmental media, and we have more than enough films, I think. There are a lot of films, I haven't seen them all. I like them but, I've seen less than 5%. Even films made 10 years ago are pressing and timely and up-to-date. I don't think making more films is necessarily the thing that is going to work. I don't think we should stop making them, but we shouldn't fool ourselves into thinking that more environmental media is the solution. Or that the technology, the high definition, the surround sound, the 3D goggles, and whatever else is coming, like 4D where you view it in 3D but there’s something that tickles your neck or water drips on your head. I think we need to touch more of nature. I know it sounds kind of counterintuitive to say that people need to get more interactive with nature but I think we do. Not in an abusive way but in a responsible way. Cause when you watch a film like Fragile, if you've been underwater, that film has much more of an impact. Even if you've just been underwater for a short amount of time in shallow water, those images mean more. Lately I've been thinking that there are a lot of people who haven't been underwater in a long time, if at all, since they were born. They get a bucket shower every once in a while, maybe they get a bath, but they haven't experienced full submergence. Which is one of my favorite things to do, to be underwater. It's just a simple thing, taking people and getting underwater. Let alone a walk in the woods or any kind of solitude.

That sounds like good advice to all of the negotiators at he conference. What is some of the best advice that you were ever given?

My adoptive father, never said it, but he taught us that a good life is basically, you're born, you give everything you can, everything you have, and then you die. And that's how you live. It sounds counterintuitive. A life well lived is one that is just full of giving as much as you possibly can in every possible way, without fear or holding back. And that's the way he lived. He never said it that way, but that's what he taught us, my digest of what he taught us. Every moment I can I try to think, what more can I give, not more what can I take or what more can I get. There is always more, you can always give more. Even in that situation with Diego, it's not looking for anything in return; it's just look around and how more can I help, what more can I do. It turns out its really fun, super fun, to be engaged and active and looking for things that you can do and ways that you can give back. Because life goes by so fast. Before you know it, you're 47. Before you know it you're 87, and then you're out of here. You might as well give as much as you can. That's probably counter to what messages we are often sharing that are more about getting as much as you can, accumulating as much as you can. But I think that's just a better way to live.

So what's next? You just published Blue Mind; you're at COP, what's next?

I'm working on a follow up book that I'm calling "Go Deeper" that further into Blue Mind, some of the stuff that I didn't have room for in the first book. Getting the book translated into other languages to expand the conversation. We're really just getting started with this field that I call neuro-conservation. I'd like to see a wave of grad students who find it interesting to spend some of their time doing more research and building careers that connect these dots. Very few people will read the book, but if there are other ways that we can communicate it and put it into action, by partnering with sectors outside of the environmental community; so healthcare, health and

wellbeing, educators and parents, arts and architecture, design, real estate and planning, the travel sector, and then sports and recreation. Those are the six sectors that I am interested in plugging into. And helping them sort of become cheerleaders for or ambassadors for this blue mind idea. And then getting the ideas plugged into events like COP20, conferences like this. Like next year at COP21, it would be great if there were a few neuroscientists walking around helping us think about how to think about real change. And working with aquariums and working with science museums to do the same thing. So people show up, the first thing they learn about is themselves, their brain, how their brain works, and what they are about to experience within that context of their own emotions, the science of their emotions. It would be kind cool to create a module that could be replicated at science museums around the world. I think about the comparison, the Monterey Bay Aquarium figured out how to keep jellyfish in captivity and then all of a sudden every aquarium in the world seems like they've got a really cool jellyfish exhibit based on what the MBA figure out. So I want to find the aquarium that will pioneer the Blue Mind exhibit and then have science centers and aquariums around the world copy them. It may be an interactive thing, you could look at your brain waves as you listen to the sound of the ocean, and you could look at what happens when you look at a screen that looks like water. How we move from red mind, or what I call grey mind, which is sort of an indifference. Red mind being an aggravated or excited brain, grey mind being an indifferent or detached brain. And how we move into a blue mind state when we are in front of water. Figuring out ways to scale the idea to get it out there through not just selling books, since I know that's not really going to work given the direction things are going with books.

Sounds like writing and research are your main focus these days. What is something besides the Blue Mind that you are also passionate about?

I'm in love sea turtles for some reason and I've spent two decades working on sea turtle research and conservation. That's fed into the work on blue mind quite a bit. The successes that we've had in restoring sea turtle populations in certain parts of the world fall back to this conversation about this emotional connection. Former turtle hunters are now, on several of the projects, the most effective turtle conservationists. We approached it from a very human, emotionally grounded perspective, and invited them to be part of the solution. Some of them said, "Wow, really? I'd like to help." Rather than vilifying people and creating these divisive approaches. I like sea turtles a lot, I like studying them, I like thinking about them, I can't explain way, it makes me feel good to be with them and help. And then also my family and my kids, two daughters. And I like nothing better than taking them out and looking for sea turtles with them, and spending time in or under the water with them. If they are having a bad day we go to the beach and it becomes a good day, every single time. And they know. They say, "Dad, are you doing that blue mind thing on us?" And I say, "yeah," and it still works. So my kids are a really big part of everyday, I think about them all day. Only second to that I think about turtles.

Do you have a favorite species of turtle?

I was pretty obsessed with the black sea turtle, which is a subspecies of the green turtle for quite a while. I think that, again, that reminds me of this ability to be obsessed in a good way is critical to this movement. Be kind of a fanatic and completely obsessed for a species is a requirement. That's often derided, or you know, oh you're a turtle hugger, or you're a whale hugger, or dolphin hugger. Yeah, hell yeah. The huggers are the ones that make sure that these animals don't go extinct. If we were leaving it up to the negotiators or the compromisers, or the indifferent grey minded people. Gone, there wouldn't be any turtles. It would have been over a long time ago. It's the people who love an animal to the point where they've got a tattoo on their

back, or all they can think about is that animal, that species. It's those people that save them. So here's to the fanatics, the obsessed, and the huggers of the world because they're saving it, really.

J, thanks so much for this opportunity.

I wish you water.