

One World, One Health Podcast
Episode 23, Season 1- Transcript
Guest: Susannah Sandrin
Cartoons and Climate Change – Environmental science for everyone

Maggie Fox (0:01)

Hello and welcome to One World, One Health with the latest ideas to improve the health of our planet and its people. I'm Maggie Fox.

Planet Earth faces pollution, climate change and new and reemerging infectious diseases and they are all linked. This podcast is brought to you by the One Health Trust with bite-sized insights into ways to help.

In this episode, we're taking a look at the best ways to help people accept and understand that the climate is changing, how people are making it happen faster, and how the changes will affect us. We're chatting with Dr. Susannah Sandrin, Clinical Professor of Environmental Science and Science Education at Arizona State University. Dr. Sandrin specializes in communicating these risks starting from the youngest children. She works with children and their teachers as well as adults. She's an expert in hydrology, the water cycle.

Susie, thanks so much for joining us.

Susannah Sandrin (0:59)

Thank you for having me.

Maggie Fox (1:01)

After air, water is our most basic need. Can you tell us a little bit about the threat climate change poses to our water supply?

Susannah Sandrin (1:09)

Well, I think many people don't realize that climate change is not just global warming but as our atmosphere warms globally, it impacts the water cycle and how water is cycled throughout our globe. So as a result, some places are experiencing more drought and other places are experiencing floods, some places are experiencing both in different parts of the year. Climate change is really an issue when we're talking about, where's water now, how do we access it, and how much good water can we find in our local environments?

Maggie Fox (1:43)

Why is it so hard for people to accept and understand this?

Susannah Sandrin (1:48)

Well, like I said, I think a lot of times people equate climate change just with the idea that it's warmer. In some parts of the world, we're not seeing as much warming as other parts of the world. So if you live in an area where you don't see these blazing hot days...where I'm located in Phoenix, Arizona, we're definitely seeing in the summers [that] it's much hotter than it was 20, 30 or 50 years ago.

But if you live in an area where you're not seeing that you might think, well, this isn't really happening, because you're not seeing it in your local environment, but you might be getting more rain. So if you're experiencing more rain, you might not equate that with climate change, because you don't hear about that in terms of global warming, but it is linked to warming of the atmosphere.

Maggie Fox (2:32)

Is there a better way to talk to people about these risks to help them understand?

Susannah Sandrin (2:37)

I think it's good just to explain that regional impacts of climate change are different. What one region experiences is not going to be the same as another. And when we look at what's happening, we need to acknowledge it.

What I'm experiencing in Phoenix, Arizona, which is drought and very hot summers, is not the same as what people are going to experience in other parts of the world. So that is important, also to make sure that the information that's out there is accurate because sometimes people want to attribute everything to climate change. It turns off people when they hear the wrong information, they just think, "Oh, that's not true." They just kind of write off all of the information about climate change that they hear because they sometimes get bad information.

Not everything in the world is caused by climate change. We have to acknowledge that some things [like a] deep freeze or a cold snap somewhere in the world, sometimes that's just because the weather changes, right? Everything isn't climate change. But there's a lot of things that we can attribute to climate change.

Maggie Fox (3:47)

It's important to, of course, reach children and that's something that you've spent much of your career doing. And I think it would be fair to say that children have a natural interest in this kind of subject matter.

Susannah Sandrin (3:58)

I love working with children because children are naturally curious. So we have beaten all the curiosity out of them through the traditional educational system. And I love teachers too, so I don't say that it's any one individual teacher, but it's just the way that we teach science often as these little nuggets of information instead of teaching it as a process.

Students often forget that they can have an integral part in contributing to the scientific community and scientific research. But children, they are naturally curious and they're always asking questions, and they're always trying to figure out how they can experience science on a personal level.

If you talk about the water cycle with a child, you really want to let them experience it, you want to do hands-on activities so they can see it, visualize it, and I don't think that's really that different for adults. With adults, seeing is believing. We have to do the same thing with adults to help them remember, sometimes, their science.

Maggie Fox (5:03)

You've got a great platform, you're an advisor to a television or video series, "The Octonauts." Can you tell us a little bit about that show?

Susannah Sandrin (5:10)

The Octonauts are a group of animals. They're animals that are acting as a person would act, traveling around the world and rescuing other animals that are in trouble because of things that are happening to their environment. Sometimes these are results of climate change, sometimes they're a result of just their habitats having experienced some kind of disruption like a storm, and they need help.

The Octonauts travel around the world. They have these really cool gadgets, gizmos and vehicles that they use and they rescue animals that are in trouble. And along the way, they share a lot of information about ecosystems that they encounter and different environments, and talk about issues that arise. So coastal erosion would be an issue that arises and that's partially often due to climate change.

Maggie Fox (6:05)

How is this an effective way of educating kids? And can you apply these principles to educating adults?

Susannah Sandrin (6:11)

The Octonauts are fabulous because they're kind of goofy, so kids really respond to that. And honestly, everyone responds to goofiness and funny stories. I think it's a lot easier to digest scientific information when it's given to you or when it's delivered as a story and when there's some fun to it. Even with the Octonauts, there might be a little bit of fantasy involved.

It's mostly science, but there's a storyline and the idea that these animals can really work with tools and do all this fun stuff, [which] is the fantasy part. But it really helps students because they're learning their content without even realizing that they're digesting scientific content.

(Cartoon Audio Clip)

Paani (7:01)

Hello, H₂O. What secrets do you hold for me today? Hydrology log, Withlacoochee River. According to my salinity meter, the water here is very salty, too salty for a freshwater river.

Kwaazi (7:14)

How can he get so excited about a scurvy batch of water in a salty meter?

Paani (7:19)

I'm a hydrologist, Quasi. Water is my thing.

Kwaazi (7:22)

But I'm a pirate. And I was hoping for a daring adventure on the high seas, not stomping in mud.

Paani (7:31)

Salty water could mean big trouble for the animals and plants that live here. It might even mean there's a ghost forest.

Kwaazi (7:38)

A ghost forest? Now you're talking!

(Podcast)

Maggie Fox (7:42)

And it sounds to me like it gives the children a sense of agency, a sense of something that you can do. It's not just an insurmountable problem.

Susannah Sandrin (7:52)

Right. When they see an issue, the Octonauts are saying, "and this is how we can react to this issue" or "this is how we can help this community when they're experiencing this issue."

The Octonauts are going around the world helping creatures. So it helps kids to see, "Okay, here's a problem, we can address it," and there's an urgency to their problems. They always had to get there quickly and address it. I think that really speaks to the issue of climate change. The Octonauts are acting now. They don't talk about, "Oh, it's human beings who are causing this". But it helps us as adults, maybe to remember that we can't put this off forever, it's happening now. And if we don't act, it's just going to get worse.

Maggie Fox (8:44)

And what are some of the things that you think people should feel that they can do right now, that won't necessarily ruin their lives?

Susannah Sandrin (8:52)

Right. So they need to look, all of us, need to look at our carbon footprint. So how are we adding to the issue?

I'm a college professor, and my students when they come in, they want to point to big companies and talk about all the bad things that are being done by big companies. But I always turn it and say, "Okay, that's important. But I drove here to campus to teach this lecture, right? I drove in a car. How is that impacting the environment? You got here in a car or a bus."

We are all impacting our environment in certain ways and we all need to take a look at what we're doing. So, what did you eat today? How did you get around? If you live in Phoenix, do you turn your thermostat to 65 degrees in the summer and use a lot of energy to cool your environment. There's a lot of things that we can all do, and they're little things. We don't have to change everything all at once, but we need to make little changes to be a better citizen of the world.

Maggie Fox (10:00)

You've got a series of your lectures on YouTube as well. There was one I saw where you talked about how one of the early environmentalists, John Muir, took Teddy Roosevelt to the forest and showed him and that helped create this president who started the Park Service, the preservation of forest lands. Would that help if everybody got out and just saw the stuff going on?

Susannah Sandrin (10:24)

I think it's important for everyone to experience natural environments so they can appreciate them, right? What does Earth look like in areas where we're not interfering with our environment

as much? So yes, I think we all should take a friend out to a national park, or a neighbor or a group of kids, especially if you live in a city, and you know, a lot of kids don't have access to these natural spaces if they're living in very large urban environments. So yes, we all should get out and see those natural spaces and appreciate how they function without our interference.

In some of these huge conserved spaces, all of the animals and the plants are living in this wonderful ecosystem that's functioning very well without us. And it's good for us to study that and see how we are impacting our environment, and how we can try and make our environments in the urban areas kind of mimic these natural spaces.

I don't know that it will solve all the problems. If everyone got out and observed nature, sometimes we just go to these spaces, and they seem very isolated. It makes us almost feel like "Oh, everything's fine," because we're in this beautiful space and we forget that the place where you live should also have natural ecosystems functioning. It's not enough just to conserve random, isolated spaces. We need to make all the spaces functional for people and critters.

Maggie Fox (12:00)

People need nature too.

Susannah Sandrin (12:01)

Yeah, right. Not just in a national park 500 miles away, but in your local environment too, in your town.

Maggie Fox (12:08)

You're saying people need this information, they need to make good decisions based on information. But some of this stuff is hard, so how do you make it more palatable, more appetizing?

Susannah Sandrin (12:19)

There are actually a lot of different websites you can go to. The Intergovernmental Panel on Climate Change, that's the international group that reads all of those scientific publications about climate change. And then they summarize all of those publications and every couple of years, they'll put out a summary for policymakers. That is a really easy way to digest the information. It's not written for scientists, it's written for the general public.

There are many different websites. It's just anytime you go on the web, you have to be careful what you're taking in and make sure it's from a reputable scientific source and not your crazy uncle, right? It has to be something you trust.

Maggie Fox (13:04)

But that's part of the problem, isn't it? People aren't very good at discerning what are good sources. They might not consider an international organization. I mean, the minute you say United Nations to some people, it sets off a red flag in their head.

So it seems to me like some of the other stuff you're doing is almost stealthy, but you know, shows like The Octonauts. You're getting good information across in a way that is really painless, and in a way that people aren't necessarily going to be suspicious of.

Susannah Sandrin (13:32)

There's no finger pointing, there's no political parties, there's no blame. It's just, "This is what's happening. This is what we need to do." So it's very action-oriented and not finger pointing.

That's also why I make some of my own videos for my class so that it's coming from their professor, someone that they trust, because if I just throw websites at them...I even make cartoon videos sometimes for my class. They have to be fun and easy to take in.

Maggie Fox (14:04)

Susie, thanks so much for joining us.

Susannah Sandrin (14:07)

Thank you for having me. It was a pleasure to talk to you.

Maggie Fox (14:10)

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