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“If Oceans Could Speak”

Episode 5 Transcript

Tymon Zielinski and Volker Rachold: Inspire through education

Volker: Ocean literacy means to understand what the ocean means for us. And at the same time, how our activities affect the ocean.

Jen: Hello, and welcome to another episode of If Oceans Could Speak, the podcast that listens to the oceans, through the personal stories of those who share their life with the sea around them.

As always, Stefan and I are going to be chatting to the people behind these unique stories in the hope that our conversations, not only intrigue, but inspire you to reflect upon your own individual connection to the ocean.

Stefan: Today's episode is particularly special to us, as our guests, Tymon Zielinski and Volker Rachold, are not only researchers, they also represent the EU4Ocean initiative, the very initiative that brought the team behind this podcast, If Oceans Could Speak, together in the first place. EU4Ocean is an inclusive initiative that is aimed at making the ocean a concern of everyone and an initiative that is supported by the European Commission and aims to promote the concept of ocean literacy through three main pillars, the EU4Ocean coalition, which connects diverse organizations, projects and people, the Youth4Ocean forum, including 16 to 30 year old change-makers and the network of European blue schools, which includes primary, secondary, vocational and technical schools. Welcome to Volker and Tymon for today's episode.

Tymon: Hello.

Volker: Hello, welcome.

Jen: And you both have such admirable and extensive careers. So, I'm going to give a very brief introduction to you both for our listeners. So, Tymon, is the leader of the climate and ocean research and education unit at the Institute of oceanology of the Polish academy of sciences and Tymon has been involved in





many research and educational projects, focused on climate change issues in the marine environment, including the Arctic and has published over 90 research papers in his career. In the EU4Ocean coalition, he acts as the chair of the climate and ocean working group.

Jen: Volker, you started your Arctic career at the Alfred Wegener Institute in the Helmholtz Center almost 30 years ago as a geochemist, studying Siberian rivers and coasts. After 10 years as a researcher, Volker's interest in international scientific collaboration brought him to the international Arctic science committee and that's where he served as the committee's executive secretary for more than ten years. And in 2017, he returned to AWI as the head of the German Arctic office. And in this role, he works at the science policy interface, advising the German government on Arctic issues.

Between you, you have such a wealth of knowledge, but what inspired you and your love for the ocean to begin with? And, how did you end up working in the Arctic? Perhaps Tymon you could go first?

Tymon: I believe I had no chance to choose any other path, because I was born and lived most of my life in a small town, which is a beach resort on the Baltic coast. My first picture ever, when I was an infant is on the beach. This is the first picture of mine, my mother is enjoying sunbathing and, apparently, I'm in the stroller that is parked next to her. So that's how it started. And my entire life, I mean, it's like connected to the beach because my childhood was on the beach. Pretty much everything that is connected was my life was on the beach so that the sea was always a very important part of my life. Also, the, Institute of Oceanology is the only Institute of that type in Poland, it's in Sopot. So, you know, it's right next to the beach. So, you go to the beach as a kid and you see this building. So the inspirations were pretty much everywhere from the very beginning. So that's how it started. And then I went to study physical oceanography at the university because of course the only oceanography department is in the area here, I had no chance to choose any other paths, basically.

Jen: Volker, how about you?

Volker: For me, it was a bit different. I was always interested in environmental sciences and climate sciences. And when I finished my PhD in Göttingen, at that





time in the early nineties, I worked on climate. So, and then just a few years before I finished, we had the German unification and then suddenly there were many exciting, interesting jobs in the former Eastern part of Germany.

And I got an offer to do a post-doc in Potsdam at the Alfred Wegener Institute, working on the geochemistry of Siberian rivers, so the geochemistry was something that I had learned. So I knew what to do, but this offer to do work in Siberia was for me, so exciting. And I thought at that time Siberia was like the moon. Right away, I said yes, And then when I first time visited Siberia and worked on the Lena river, it was fantastic. It was just fantastic. So, and then of course, I got this interest in the Arctic and I simply stayed in Arctic research for another 10 years and then continued more like science management and outreach doing some communication.

It's also in my career. It's almost 30 years now, but the beginning was a bit more like coincidence. I would say

Jen: Nice, contrasting ways of getting involved I think.

Stefan: Yes, thanks a lot. And that already brings me to a question that we often ask our guests. Is there a favorite memory or favorite experience from the Arctic that you would like to share?

Volker: Yeah. Maybe one of my first expeditions when I was in the field in Siberia or just me and one student and two Russian colleagues, we had a small ship and we landed at the beach of Lena river, put on a fire and had, of course in Russia, you have to have a little vodka. And then I realized that there is no other person in an area of, let's say, 50 kilometers around me.

And that's something that you cannot imagine living in Germany. And that was an amazing moment, this silence and knowing that there's no one else in the next 50 kilometers around you. And that was pretty exciting.

Tymon: Actually, my beginning was the Arctic is due to the cooperation with the Potsdam AWI Abteilung, with the guys from the atmospheric studies.

My story would be one time, we had a meeting in Ny-Alesund and we had to get to Longyearbyen, the, let's say big airport, so to speak. And then we have to take





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a small airplane to reach Ny-Alesund, but there was such blizzards, really huge snow storm that everything just collapsed for two days. And then we had a hut, there was no heating. I was with my colleague. He got sick. So I went out to find some driftwood, like broken pieces, and we managed, I remember very well. We managed to reach the temperature inside of like 13 degrees at the peaks. And then of course, the moment there was a little bit less fire. It was like around zero.

So for two days, we were absolutely cut off the civilization because the hotel was full of people. So there was no chance of getting a room in there and two days passed, and then we could fly. Sort of like Volker who said that, you know, there were no people in the area. We have people in the area, but there was no way of doing things in a, let's say, continental way, so a bathroom with hot water and so forth. We're just stuck to what we could find. So that was an interesting start.

Volker: And actually I was wrong. I said 50 kilometers. It was more like 500 kilometers.

Tymon: Ok!

Stefan: It's often this remoteness and the nature, which is awe-inspiring in the Arctic. And given that both of you are in senior positions right now, do you actually still get to travel to the Arctic where much, apart from the pandemic restrictions, of course?

Volker: Yeah, I do. I travel to the Arctic quite a lot, actually. I mean, there are many conferences and meetings and normally of course now with the pandemic, I'm not traveling, but before. I would say in the Arctic, at least 2, 3, 4 times per year, during the time when I was working for IASC, it was much more, I was in the Arctic almost every week. So no, there are many things going on in the Arctic working with meetings of Arctic Council or whatever conference. Plus, you're not going to the really remote Arctic. You are more like in places like Tromso or Rovaniemi or Fairbanks or something like that. But it's still Arctic.

Tymon: Honestly, I haven't been to the Arctic for like three years now. The reason is you're asking me if I get the chance I get a chance every year, because our institute sends our ship every summer into the Arctic, we start like pretty much next week. And then the ship comes back late August. So there is a





chance, but we have a nice cooperation with the university of Milano and makes much more sense to send my colleagues to do the research, the younger ones who, who sometimes go for the first time and another in our Institute. Now we have another in the institute who attends the science meetings. So I would say I have a chance, but haven't been there for three years now. And I think maybe it's time to go back again.

Jen: Maybe you should take the next step just to reconnect.

Tymon: But you know, it makes so much sense for the young ones to go and experience it as long as they can experience it, right, because who knows what's going to happen in a decade or so. But still, yes, definitely. I would love to go.

Jen: Absolutely. Tymon, can you tell our listeners a little bit more about the EU4Ocean project? What its aims are. And maybe you can talk a bit more about your role as part of that.

Tymon: Actually, I was involved in many different projects and I have a feeling that this one is the first one that is working the way I would expect it to work.

Tymon: And we have three working groups, I lead the climate and ocean working group. So maybe I'll use an example of how it works. We have experienced European maritime days recently. It was between the 20th and 21st of May organized in Holland in a hybrid mode. Now we are facing world oceans day on the 8th of June. So how does it work? We actually had a number of meetings last year, late last year, where we discussed a number of initiatives that different partners of the working group have. And we actually found really a number of connections. The result of that is the joint initiatives that were built for the European maritime days.

For example, the “I live by the sea” spring school where we connected people from the Baltic and the Black Sea exchanging they experiences. The next one is a number of initiatives that will happen this coming week around the world oceans day. So, for me, what is the most important part is that we shared the experience. We exchange experience, lessons learned and so forth. But on top of that, we definitely do work together. So, the sharing experience, joining into initiatives, creating new initiatives, that's how it works. And I think that's the biggest value.





Stefan: Joining forces to deal with ocean related issues is of course, something that's fairly obvious given the connecting nature of the ocean. Tymon, what do you see as the key challenges for the Arctic ocean and in which way can the EU4Ocean initiative make a difference and how can it contribute to sustainably managing the Arctic ocean in the future?

Tymon: As Jen introduced me, I lead the climate and ocean research and education unit. We started to realize that science is a very important of our global issues to be solved, but also without the social perception that will support us there's not much we can do because our results will be produced, we'll be on the very high level, but then if nobody pays attention to them, then we are sort of playing the game for ourselves. So we realized now together with my team, that education on every level, whatever you feel it is, is the key to changing people's minds. One of the interesting examples is Arctic survey that has been done twice in 2005 and, I think, 2013 in nine Arctic countries, pure perception of different Arctic issues, including climate change and so forth. Unfortunately, between the first one and the second one that the perception has been declining. So obviously we produce a lot of good data. We produce a lot of interesting and valuable information, but somehow in the process of knowledge sharing, we don't reach, let's say the masses. With the masses, we don't reach the decision makers as efficiently as I would expect. So what value EU4Ocean can bring to that is exactly this part. Let's share the information about the Arctic. We have the scientists on board. We have people from different types of organizations. So, the education, promotion, communication, whatever form we can think of, I think is the biggest value we can produce through the EU4Ocean. There is a lot of good data. There's a lot of good information. Let's wisely use it and share it with large communities. That would be my vision of that.

Stefan: And staying with the topic of the sustainability of the development of the Arctic ocean region, Volker, with regard to these challenges faced by the Arctic, why can it be difficult to find solutions to Arctic issues and why is it that sustainable development in the region is so complex.

Volker: I think we have to look at the governance structure in the Arctic, which is complex. We know the Arctic ocean is surrounded by eight countries and that means of course, that to land area, but also big parts of the shelf area, so of the Arctic ocean, are under national jurisdiction. And then of course it's always a difficult thing because each country can of course develop its region in way its believes it is right. And there is nobody else who can do anything against that.





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We have of course the Arctic Council and we can talk a bit about that later, which is the most important body for governing for setting up mechanisms and structures in terms of sustainable development of the region.

But at the end, of course, it's the eight Arctic countries. And then you have the central Arctic ocean part, the international waters, which is actually getting smaller and smaller because all the countries are trying to claim as much as possible, also from the ocean floor. And they can do that according to the main governance regulations under the United Nations Convention on the Law of the Sea and that's governing the central Arctic ocean as well as the International Maritime Organization. They are also putting up mechanisms and procedures. For example, for shipping, they just adopted the polar code for shipping, for ships, traveling in Arctic waters. They have very specific regulations for, for ships, for example, but at the end of course only the central Arctic ocean part is international waters and the national governance and the rest is just national jurisdiction and that makes it very complicated to agree on measures on sustainable development, of course.

Tymon: If I may add something to that, we have this perception of Arctic being removed, very clean, sort of like mythical area. And I think, again, the role of the EU4Ocean community is in that, that we have people from very different countries versus the Arctic. And we have to make people understand that that Arctic is the key in many climate issues for Europe and while for Europe, then for the rest of the world as well. The role is, is very important here. And we also know that due to the climate change that the deforestation of big areas in Canadian Arctic areas and desertation of these areas also leads to very big wild forest events. And these was very good in a sense wind conditions, transport, a lot of soot into the Arctic, which very profound effect on the radiated balance of the area with that. We are talking about the super extra melting of the glaciers and so forth as a forest. So our activities far away from the Arctic have indirect effect on the Arctic itself. So also through the EU4Ocean, we can talk to people that by driving a SUV that is a diesel SUV, you are indirectly affecting the Arctic as well. It's not only your own smog in your own town, but sooner or later in the global perspective, the Arctic will be affected by that, too. So I think that this is also a good platform for such discussions that it's not only the water reserve world that you have in front of you, but it's also a global perspective.

Volker: And maybe to add one thing on the Arctic ocean being isolated and remote and far away, that's the picture that we have, but it's not true anymore





because, an issue when it comes to the development and exploring the Arctic, of course, because the Arctic is rich in resources, shipping through the Arctic is a big issue and of course, economically very promising. And that is what explains the major interest in the Arctic, especially with the declining sea ice cover, which is disappearing faster and faster. Of course the Arctic ocean gets accessible. And that is why so many people and so many countries have interest in the Arctic. And that is also why this issue of sustainable development and protecting the Arctic and the Arctic ocean is getting so important. And that's a thing we shouldn't forget.

Stefan: That's a really important message, I think, for our listeners to see that things are connected, what's happening far away from the Arctic actually has an effect on the Arctic with wildfires or the way we behave outside the Arctic with consumption, emissions and so on. A really important point, thanks for that.

Jen: Yes. And I think we're hearing also from other guests, this idea that because of the nature of the Arctic ocean, it's not remote, it is connected. And that requires a lot of collaboration, not only with the science, but also with the policy. And I guess now thinking more about also cooperation of how we disseminate that knowledge and cooperation and how that knowledge is shared.

So Volker talking about this collaboration in the face of climate change and all the changes we're seeing in the Arctic, do you think that's going to strengthen cooperation or do you think it risks it becoming more difficult to cooperate together?

Volker: I think it strengthens cooperation, especially in the Arctic. And I mean, in the Arctic, we have a long history of international cooperation, the Arctic council, which is of course the main political body for the Arctic just celebrated 25 years anniversary this year. And they had the ministerial meeting in Reykjavik just two weeks ago. And, of course, they look back on a very successful cooperation between the eight Arctic countries and, very important, also the indigenous population of the Arctic, who are represented on the council. Of course, they only deal with certain aspects and environmental protection is one of them. And the other one is sustainable development. They have working groups to address those things and it's a truly international corporation. And of course it's very much also based on scientific cooperation because what the Arctic council does is scientific assessments or studies that result in policy recommendations for the Arctic countries. So, and then the Arctic council drops





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these policy recommendations and puts them forward to the countries. Of course, this is not legally binding, but it's very important that the countries decide on joint measures, joint activities, joint best practices in terms of protecting the Arctic and sustainable development.

So I think this is extremely important. And as I said, it's dates back for decades case already. And it's a forum that despite many political difficulties we hear about, especially between the superpowers, works extremely well. So, and all the countries are using the Arctic council and seeing its value and its importance.

So I think this is a very good example of what happens. I mean, we have other things. For example, if we talk about scientific cooperation, we have scientific questions to answer to the Arctic and the Arctic ocean that no one country could answer on its own. You need international cooperation. I think the best example is the MOSAiC expedition of last year, which was initiated also through the international Arctic science committee, so an international science organization, and it was a truly international endeavor was more than 20 countries involved several icebreakers and huge budget. And this is the thing you cannot do without international cooperation. Then we have another international mechanism, which is the Arctic science ministerial, so where the science ministers of all the countries that do Arctic research gather every two years, now has developed into a real regular process, and agree on what let's say priorities should be and where they want to work together, which topics for, for Arctic research. And also the last meeting was just three weeks ago. So within 10 days we had two ministerial meetings on the Arctic, and that also shows you how much interest there is in the Arctic on various different levels.

Tymon: From my area, I also have a very positive example of international cooperation. Last year we launched an online summer school. It's interdisciplinary in that stands for an environment of the Arctic, however, we started with heavy-duty physicists. The young people, mostly PhD students or master's students, and the success of such that this year we're repeating it. And there was a request from the students to add the social science part because they found it interesting and inspiring for the work, because, you know, it's easy to be an atmospheric physicist and, you know, we were publishing your papers in this field and your colleagues read it or not. But then to see the larger picture, the broader picture, that's a different story. And obviously we see like what Volker





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said and this small scale, we see the international interest, widening of the interests. And that's very positive, I think.

Stefan: Thanks! It is really important that we know are in a time and a moment when things really come together, when the Arctic is no longer just the domain of one field of science, but we start to see the complete picture. And there's also an increasing interest in the Arctic. Volker mentioned the MOSAiC expedition and in one of the earlier episodes, we had the captain and the first officer of the Polarstern as guests in our podcast and these are events which really bring the Arctic into focus. Now, EU4Ocean promotes many forms of ocean literacy. To get to the root of the semantics, how do both of you interpret the phrase "ocean literacy"? How can people learn more about the ocean?

Volker: I would say ocean literacy means to understand what the ocean means for us. And at the same time, how our activities affect the ocean. So both ways. And I think the most important message that I would think about ocean literacy is to understand that without the ocean, there wouldn't be any life that we know on the planet. It's a very simple answer. And the ocean is of course regulating our climate, the longterm it's of course the ocean that regulates our climate. The ocean provides us with food. Without the ocean, billions of people wouldn't have anything to eat. And at the same time with our activities, we are destroying the ocean. And that is of course a big issue and people have to be aware of that. I mean, we just started the United Nations ocean decade, which is exactly working on that to make people aware of what the oceans are and why they are so important. So I think at the end it's also up to a scientist to inform people and to transfer our knowledge in an understandable way for everyone, so that people get a better picture of what the ocean means to us. It's not just summer vacation and swimming and a nice beach. It is much more for us without the ocean. I think this global work as it does.

Tymon: Basically Volker answered the question, but I can add two things to that. We have the slogan and our work that we all live by the sea, no matter how far from the sea you live, because every activity we have, no matter where you are, you either affect the ocean or you depend on the ocean. Just like, for example, the goods that come to the port of Hamburg, for example, and are distributed south into the country. So we are all connected to the ocean on the daily basis. It's not like you live by the big river sooner or later, your activities will be reflected through the river and into the ocean and so forth and so forth.





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So we all live by the ocean. We all do. There's one more thing that I wanted to say, Volker said that it's our researchers' duty to share the knowledge. I fully agree. But knowing the deficiencies in researchers' ability to communicate, I fully believe that we have to find scientists, researchers who are willing to share and combine their activities with educators from the beginning to the final product. We need help and consultation from people who know how to do it. And sometimes I have a feeling that researchers just skip this part, they prepare something, they know that this is important, but we need to learn how to communicate or use the resources that are available. I would see the importance of the ocean decade is that researchers do get combined with, let's say, reality.

Volker: I think it is an extremely important point that you mentioned this. And I think this is also a very strong argument to work with young people. My experience is that young people are much better in communicating and more willing to do this and to see this as an integral part of their, their science. And there are many, many excellent examples for the Arctic. The first of course, that comes to my mind is the association of polar early career scientists. The association of early career scientists was set up by early career scientists, run by early career scientists for early career scientists. And they are really amazing in terms of how they communicate science. There are other examples like the Arctic youth ambassadors. There's an Arctic youth network in the Arctic. There are many things happening on that level. And I think younger people are much better at communicating than the old scientists. So, and I think this is really important.

Stefan: Definitely, I fully agree.

Jen: Yeah, absolutely. I think as well as an early career scientist myself, I can definitely relate to that as being able to translate science in a way for other people to understand is becoming much more a desired skill. So wrapping up this small section, Tymon, can you tell this news about how people can get involved with EU4Ocean activity?

Tymon: Well, actually it's quite easy. I mean, you go into the website and as I said, there are three working groups, so that the easiest way is to choose the part that is interesting for you. I mean, the group that is interesting for you and we have the addresses of different companies, organizations, institutions that are involved in the work of such a working group, and you can either contact them directly because we also provide the information of their interests and activities.



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It is really easy, please go into the EU4Ocean forum website. There are articles there that you can read, get that grasp of what's going on, but also within the groups, you can go and get information about who's doing what and what to expect.

Jen: A couple of final reflections. I think I wanted to ask you Volker. So you went to the Arctic to quite a lot throughout your career visiting, or even on the, on the riverside where you studied. I wanted to ask if you've noticed any changes yourself in the climate or on any other impacts over the years that you've been visiting. And if you have, how do these changes make you feel?

Volker: Of course. I see that. I mean, if you're going to the Arctic, you see the changes. I was in Greenland, for example, two years ago, before the pandemic and looking at the ice sheet in Greenland and the calving of the ice sheet, it's, it's so impressive. It was in May and it was 20 degrees. So we were on the glacier in t-shirts, and it's something that it's unbelievable. And of course there are some climate hot spots in the Arctic like in Spitzbergen, Svalbard, where the temperature increase is unbelievable. Last year we had a maximum of more than 22 degrees, I believe in Ny-Alesund. And that is something that never happened before. Or we had this extreme events in Siberia where we had 35 degrees in Siberia. I think even 40, it was 40 degrees in Siberia. I was at the same place 25 years ago. And there it was summer. It was 20. It can be quite warm in that region. It can be 20 or 25, but for more than 40.... no. Of course you see the changes in the Arctic and it's not only the temperatures. Of course, you see the, you see the thawing permafrost, you see the melting glaciers, the ice you can see from satellite images, how it is declining every year. It is a traumatic change and it's getting stronger in the next couple of decades. So it's hard to imagine how the Arctic would look like at the end of the century.

Stefan: If you could share a thought or an important message about the Arctic ocean. What would that be?

Tymon: The message would be that the Arctic ocean, it's not a remote reservoir it's part of the one ocean, and we all have impact on that. And that would be probably my message. Let's not think about the Arctic ocean as a mythical are that is so remote that on the Elsa from Frozen can go there. It's definitely something that you can think in terms of it's your ocean, you know, the United Nations, just that we use the expression, the ocean, that makes perfect sense because all the reservoirs are interconnected and let's not think about the Arctic





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ocean as something separate far away that we have no effect on, we do have real effect on it.

Volker: My last word is kind of a little math lesson, so we always thought that the Arctic is warming twice as fast as the rest of the world, on average. This month, the Arctic council published a study saying that it's three times and I'll consider the two degree Paris agreement goal. That would be 6 degrees by the end of the century. But actually at the moment with the current CO2 emission scenarios, we are moving towards four degrees on the global average, which means 12 degrees for the Arctic. And of course, with 12 degrees warming in the Arctic, there wouldn't be an Arctic ocean as we know it today anymore. It would just disappear. And that's, I think something to keep in mind. So if we continue like that, we will completely destroy the Arctic.

Jen: It's a bit of a sober note to end on but thank you very much for that. I think these reflections have been really important and some really valuable messages coming out. So thank you both, Volker and Tymon for your time to today.

Volker: Thank you!

Jen: That's all for today. You can stay tuned on upcoming EU4Ocean events and opportunities by visiting a link we will put in today's blurb. If you liked this episode, please leave us a rating on whichever listening platform you are using. And if you'd like to share your own ocean story, connect with us, using the hashtag #IfOceansCouldSpeak.

This podcast was brought to you by members of the EU4Ocean initiative and was made by the If Oceans Could Speak production team, led by Penny Clarke, co-organized by Arne Riedel and Anna Saito and presented by Stefan Kirchner and me, Jen Freer. From all of us, thank you for listening!