

Transcript

Julia Macpherson (JM): Welcome to Arctic Minded, a podcast where we discuss life, work and research in the Arctic. Arctic Minded is produced by ArcticNet, a Network of Centers of Excellence of Canada that brings together scientists, engineers and other professionals in the human health, natural and social sciences with partners from Inuit organizations, northern communities, federal and provincial agencies, as well as the private sector to study the impacts of climate and socioeconomic change in the Canadian North. From coast to coast to coast, we acknowledge the ancestral and unceded territory of all the Inuit, Métis and First Nations people that called this land home. ArcticNet acknowledges that its offices are located on the unceded territory of the Huron-Wendat, Wabanaki, Innu, Wolastoqiyik, and Algonquin Anishinaabe peoples who have been protectors of and share connections with these lands since time immemorial. We further acknowledge and recognize that our work reaches across Inuit Nunangat, First Nations territories and Métis homelands. And for this we are truly grateful.

JM: Hello and welcome. My name is Julia Macpherson. I'm ArcticNet's Science Communications Coordinator and host of Arctic Minded. I am so excited about today's episode, "A Deep Dive into the Arctic", which, as you may have guessed, will be centered around scuba diving in the crisp, cool waters of the Arctic. Our guest today is Dr. Amanda Savoie, a research scientist and Director of the Center for Arctic Knowledge and Exploration at the Canadian Museum of Nature. On top of this, she is also a very cool, kind person with a deep love for seaweeds and a passion for research. Amanda and I are going to discuss her career path, love for seaweeds, the challenges, and most importantly the wonders of underwater scientific exploration.

JM: So welcome, Amanda to Arctic Minded. We're really excited to be talking with you today.

Amanda Savoie (AS): Thank you.

JM: Do you want to start by just introducing yourself?

AS: Sure. Thank you. Thanks for having me. I'm really excited about this. My name is Amanda Savoie. I am a research scientist at the Canadian Museum of Nature in Ottawa and I study seaweed.

JM: Okay. So can you start by telling us why seaweeds? I feel like your social media posts... It's very seaweed/kelp oriented and I have met few people who are as passionate about seaweed as you are.

AS: Sure. So, there's a few different reasons why seaweed are important and why I love them so much. But I think that one of the main reasons is I always loved marine biology. You know, it's fascinating. The ocean is, it's all around us especially, I grew up on the East Coast of Canada, so, it's kind of almost like this mystery, you know, you can't see what's in the water the way you can when you walk through forest or, you know, go hiking. And so, I always like that mysterious aspect. You know, you have to scuba dive to study seaweed. But they're also really, really, really important for the marine environment. So they're photosynthesizing, they're producing oxygen and they're at the base of the food chain, and they're still pretty understudied. Like you said, there's not a lot of people studying seaweed. And they're also really important carbon sink. So, they're taking carbon out of the atmosphere, especially kelp, these kelp forests, which I'm sure we'll talk about more.

JM: So is there a difference between seaweed and kelp?

AS: So seaweed are basically marine macroalgae, so they're algae that live in the ocean, and they're big enough that you can see them with your eyes, and kelp or subset. So kelp are a kind of macroalgae. And kelp basically are large brown algae in an order called the laminariales. And so they're kind of a, basically, a type of seaweed. And they kind of stand out because they're big, so people notice them and they create these forests, which have been kind of compared to, like tropical rainforests in the ocean. You know, they're very productive. They're biodiversity hotspots. They're really important habitats. And there are kelp forests in the Arctic, which is really cool.

JM: That is really cool. So, you quickly mentioned that you have to be like in the water in order to be studying them. So, do you spend like the majority of your time in the water or like do you do a lot of lab work as well?

AS: Scuba diving is a really awesome way to study seaweed, but I should also mention that in some parts of the world, like the Bay of Fundy where I first started studying seaweed, you can also collect them at low tide. So, there's a certain subset of seaweed that grow in the intertidal zone, which is the zone between the high tide and low tide and to collect those you usually have to go out at low tide, usually very early in the morning, and you kind of work your way down to the water's edge. But then there's still seaweed that only grow in the subtidal zone. And to study those you need scuba diving. And then in parts of the world where there isn't much tidal range, then you need scuba diving to collect, even sort of the more shallow species. My, sort of, day to day for my job really varies depending on what time of year it is. So, in the summer I do a lot of field work, a lot of collecting. The Museum of Nature... we're like a collections-based research institution. So, most of our researchers do the kind of work where they go out and they collect samples or collect specimens and then bring them back to the herbarium or the collections.

JM: The collections that Amanda is referring to here is the Canadian Museum of Nature's Natural Heritage Campus, a research and collections facility where specimens such as seaweeds are meticulously stored, preserved and study. The Natural Heritage Campus does occasionally host open houses, so there are opportunities to visit. We'll post more information about this on our website.

AS: What ends up happening is you know you go out, you collect a whole bunch of samples, but then you need to process those samples. And so, you end up spending time outside in the field and then time in the lab or the collections, basically, properly mounting and identifying your collections. And then I also do DNA bar coding and molecular work. So, then you also spend time in the lab. And a lot of time on the computer, of course, analyzing your results. And figuring out, you know, I try my best to identify things in the field, but seaweed are really tricky. So, you end up spending time at the microscope, the lab. So, it's very varied, which I love.

JM: Yeah. So, I am a little bit familiar with scuba diving because I actually am like semi certified. I did all of my coursework but then, I did this in like March of 2020, so when COVID hit. I wasn't able to do my open water. But I know that in order to be, or, I've been told that in order to be like a scientific diver, there's a lot more training and qualifications that you need. So, can you talk a little bit about how scuba diving for leisure is different than scuba diving for science?

AS: Yeah, sure. Also, I'm sorry. That's too bad. I hope you can do your tech out dive sometime soon because it's really fun. Yeah.

JM: I hope so too. I would love to get back into the water. It's been too long.

AS: Yeah. Yeah. So I think it kind of depends. There's a few different paths you can go to become a scientific diver. You know, there are training courses you can do, like specifically to learn scientific diving. Those are really important. You can also just dive a lot and just gain a lot of experience with diving in general. So, I think no matter which approach you go, the main difference is that scientific diving is you're working. And you're not just kind of... when you scuba dive, you got a lot going on already, so you're already kind of, you know, maintaining all your gear. You're checking your air consumption, and you're checking your depth. You've got, like, kind of a lot of things to monitor, to have, like, a safe dive. And then if you throw in, like, sampling specimens or running a transect or doing quadrants like you're adding more and more stuff on top of your tasks. So it's really best when you start scientific diving if you're already really comfortable with all the tasks that are already built into scuba diving because you're adding and adding and adding on top of that, and then when you add like harsh environmental conditions on top of all that, it's just a lot. And so I think the best way to for people to get into scientific diving is either to just dive a lot and have a lot of experience scuba diving or to go into it kind of knowing you're doing scientific diving and really preparing, either by taking extra classes or by really training yourself to kind of handle all the different tasks and. At the end of the day, it's not technical diving, you know it, it's just regular open water diving. It's just that usually you wouldn't be doing so much stuff while you're down there.

JM: Right. So when you started out, I think you went to grad school at the University of New Brunswick, is that right?

AS: Yeah, that's right. Yeah.

JM: So before you started doing research as a Masters or PhD student, did you already dive before that or did you learn how to dive in order to do research?

AS: Kind of happened all at once, like I did a marine block class at UNB, which was this amazing, amazing experience that was like a hands-on marine biology semester and sometime around that semester, I can't remember, I think right afterwards I thought "Even if I don't scuba dive for work, I want to scuba dive like now" Really badly. More than ever, I always kind of wanted to, but that really pushed me into it. So, I started scuba diving scuba diving for fun because I was obsessed with the ocean and then basically, I started a masters and then a PhD working on seaweed biodiversity. And so ,I started just diving for work that way, and my PhD supervisor trained me, which was great because basically I would start kind of just collecting a little bit, but not doing too much more just being support and then you kind of work your way up like gradually through experience to doing harder and harder dives. The Bay of Fundy is a good place to learn how to scuba dive because it's really cold, there's a lot of current, there's a lot of tide and so you learn in kind of a harsh environment and then everything else feels simpler afterwards. You know, even diving in the Arctic, it's very, very cold. But where we're diving, there's not much tidal current and there's not much bad weather, it's just cold, and so even that I'm like, oh, it's not, you know, it's not so bad compared to the Bay of Fundy. So I'm glad to have had that experience with sort of a challenging environment to prepare me for other more challenging environments.

JM: Right. So, what other differences have you noticed between, besides just the cold, between diving in somewhere like the Bay of Fundy versus up in the Arctic?

AS: I mean, I think everywhere has its own special beauty. Like I'm fascinated by everywhere that I dive. But the Arctic, where we've been diving near Cambridge Bay in the Western Arctic, has the clearest water I've ever seen in my life. And I've I have not done much tropical diving, so you know, I don't know. I can't exactly compare it to that, but it feels tropical in the way it looks, like the water is crystal, crystal clear. One day this summer, we were we were looking down out of our boat and we could see perfectly kelp and seaweed on the sea floor. It was 30 feet deep and we were just seeing perfectly. And so, this was of course on a very flat calm day. But it's just so clear and it's just this beautiful blue turquoise color, and there's also a lot of life in the water column, especially on these really still days. So you kind of descend down through the water and you see all around you like these creatures like sea angels and sea butterflies and sea gooseberries and jellyfish. And it's just really fascinating, kind of beautiful, with the sun shining in and you're very cold. Otherwise, you would feel like you were somewhere tropical.

JM: Amanda was generous enough to share some of her gorgeous underwater images that have been captured on her diving trips with us, and they will all be available to view on our website.

JM: So what's the coolest thing that you've seen while diving?

AS: Ohh that's such a hard question. I'm gonna have to think about that. I've had so many amazing dives over the last few years and kind of like you were saying, you know, I didn't dive at all I think during the pandemic and then everything kind of started up again and then since that happened, I've been like diving in the Arctic. I went on as Students On ICE expedition to Labrador, where we were also scuba diving. And that was amazing. And then this summer, we also had a really, really nice dive trip. I had a few really amazing dives in Labrador with Students on Ice. We were doing marine sampling and surveying for the Innu First Nation as part of an expedition through their marine zone, which was really, really cool and just such beautiful scenery and we are working with Claire Goodwin from the Huntsman and she's an expert on sponges and we kind of had this idea that we were looking for this perfect wall dive to search for sponges. And one day we finally had our little Zodiac and we were right up to up to this cliff and the sounder was saying like 100 feet. And we were like, OK, maybe, this is our wall. And we dropped into the water and it was this like 100 foot underwater cliff just covered with sponges and seaweed and sea stars and all kinds of life. And it was amazing. I don't think I've ever done a wall dive like that. And it's very unusual. Like, I don't really usually do wall dives. Usually I'm doing more gradual slope, looking for kelp or seaweed and so to dive on a wall like that where you just see like the ocean dropping out under your feet as you slowly go down, that was pretty special I think.

JM: To clarify, a wall dive involves diving along a vertical terrain underwater. This could be the edge of a coral reef, reef walls, or anything of this sort.

JM: Was that this past summer? Because I think I was reading a little bit about that expedition recently.

AS: Yeah. Yeah, it was 2023. It was in July.

JM: Were you training, like, students to dive at all? Or were you just there like as a support, kind of.

AS: It was more of a... So they had a marine research program basically based on ship and then the youth were there to sort of experience the science and see what was happening and see how... you know, how ship-based science can be done, but unfortunately none of the youth were certified to dive. Plus, it was pretty extreme diving. It was very cold there as well, but at least we had a lot of youth that were really interested in diving, I think after this trip. And asking us questions about how they could

start diving, so I was really happy to hear that from a few people, and I think scuba diving can be really powerful, like as an outreach tool, because we would bring up different sea creatures and things for people to see and it's really inaccessible otherwise. And people are really fascinated to see, and we had the same experience in Cambridge Bay. You know, there's not much of tidal amplitude there. So, people don't really see like sea urchins that often or sea cucumbers. And so, it's really cool to be able to show people, like, what is in their waters and how colorful and beautiful it is.

JM: That's a really good point and something I haven't even really thought about because I also lived on the East Coast for a few years. I was doing my Masters at the University of New Brunswick, but in Saint John. And so, I got to experience those super high and low tides and got to see all that biodiversity when the tide is out and all the kelp, not so often sea urchins, but lots of crabs and things like that.

Occasionally we would find like sea stars when we visit PEI. But yeah, I guess I never really thought about how not every place has tides that extreme. And not everybody kind of has access to be able to see those kinds of things.

JM: Do you do any like photography or videography when you're diving ever?

AS: Yeah, we do. So, I tend to focus more on sampling and my dive partner will take a GoPro and he does all these beautiful photos and videos while we're down there and it's amazing and it's really powerful tool too for research, you know, because we can then sort of describe the site. When you're diving, like I was saying, there's always a lot going on. I'm trying to sample all the seaweed that I see that are different species and we're, you know, monitoring all our air and our depth and all our dive plan. And then if you take a lot of video, you can look at the video afterwards and sometime in the video, you see things that you're like, whoa, I didn't notice that when we were down there. So, it's really nice to have a record of the dives, you know, for scientific reasons. And then, of course, the photos and videos are just to show people. It's a really amazing tool.

JM: So you mentioned something about ice and I wanted to ask. I don't know if this is a bad question, but I guess it's a 2 parter. So my first part is can you dive in the Arctic year-round? And the reason I'm asking that is because I imagine at some point like there might be too much ice cover to actually go underwater safely.

AS: Ice diving is totally a thing that people do, so you technically could dive year-round. It's technically more difficult because you basically have to cut a hole in the ice, you know, either with, usually people use chainsaws, and they'll cut like a hole in the ice. And then you dive like normal, except you're tethered. So, I've done this in a quarry in Wakefield last winter. It was fun. You're tethered to your partner and you're tethered to the surface. So, you need a lot more people because you need two divers in the water, two people managing the tethers. And then two people as backup divers. So, you kind of need more of a team. So, you totally can do it, but for us, since there's a pretty long ice-free season in the summer, it just makes more sense to go in the summer. But a lot of people do under ice diving in Antarctica, for example, in places where there's ice all the time or if you were going further north, or if you were just interested in studying the winter, that would be really cool I think. But it's harder too, because now the water's colder and the air is colder, so you just have a lot more like risk of hypothermia and managing that usually would construct like a tent with heating. And that kind of thing over the hole that you dig in the ice, that way you know the divers can be protected from the cold. But so yes, it's possible, but it's very logistically demanding.

JM: Right. So, when you dive in the Arctic during the summer, are you wearing just a regular diving suit or do you have to wear a dry suit?

AS: We wear dry suits. We were really lucky we were sponsored this year by a wonderful company called Abyss from Nova Scotia and they gave us the warmest dry suits I've ever worn. They're super thick neoprene. And then I layer all kinds of layers, even under the super thick neoprene, and with all that you can actually stay pretty warm. So, sea water because of the salt, it doesn't freeze at zero, it freezes at -1.8 and actually in both Labrador and in Cambridge Bay, we had hit water that was like -1. So, you're actually in water that's below 0, below freezing. And you feel, you know, like you feel it on your face especially. But with all these layers that I put on, they tend to be OK for about 30 minutes to 45 minutes or so in the water before, it depends, but your hands are usually kind of what gets cold first, especially if you're collecting. So, I have little ziplock bags and different things that I'm opening and closing and collecting little... I tend to go for... I'm interested in biodiversity, so I'm always collecting like tiny little seaweeds that you don't really notice and they're hard to get in and out of the bag. And at some point my fingers are just useless.

JM: I bet. Is there anything that you do like pre or post dive to kind of prepare yourself mentally for that cold or afterwards to warm yourself up quickly?

AS: Uh, yeah, that's a good question. Usually I'm so excited, like I just love it. So usually like I'm so excited that I'm not too cold. Like usually I'm kind of like worked up and excited and then I'm warm. But if ever you're feeling chilled before you get in, what we do is get boiling water, water that's pretty hot, and pour it in your neoprene gloves, in your neoprene hood, and so that instead of putting on, like, a damp, wet neoprene hood, you have this nice, warm water, because the neoprene holds the water really well, so if you preheat it, that can last. If we're ever like kind of chilled before a dive, we would go to shore because we're usually, we're almost always boat diving, so we'd go to shore and like, run around wearing your Mustang suit and all your layers, and then kind of get your body temperature up a bit. And then usually after a dive, we'll always go to shore again, run around, like, eat. Also, just eating tons of food like, just like chips, candy, beef jerky, whatever. I just find it really helps keep my metabolism up if I just like snack continuously on these days out of the water. And it's kind of fun because we always have, like, a big snack bag when we're going, especially if you're doing multiple dives a day. And you're putting on like wet things, and you're already chilled, so running around and eating snacks.

JM: So if you're doing multiple dives a day, does that just mean you're boating from location to location?

AS: Yeah. So basically we might say, OK, in the morning, we're going to go here and sample the site, then we'll go warm up for a bit, then we'll go to site B and dive again, that kind of thing. Yeah. Just trying to, like, especially, you know, if you've gone out in a certain direction, you might want to hit out a few sites along that area and then like head back to town, that kind of thing.

JM: Do you feel exhausted after a day of diving?

AS: Yeah, sometimes it can be really tiring. I mean, like I was saying, I love it. But yeah, I definitely get really tired and in Cambridge Bay, we have really bad weather pretty often, so we'll get like one day of diving, usually one day of bad weather, and then one day of diving, so, I felt more rested. When we were in Labrador, I mean, it was amazing, we had good weather every day. So all of a sudden we were diving

multiple times a day, every day for like a week, I think at one point. And then that was probably the most tired I've ever been in my life. I was happy, but I was very tired.

JM: Well, at least hopefully you got enough samples or whatever you collect during those days of good weather.

AS: Yeah, we did. And it was really making the most of like this precious ship time and having everybody there. And so, it was amazing. It's just... definitely needed a little recovery time after that one.

JM: Yeah, definitely. Do you have any advice or things that you would like to tell people before they maybe start exploring careers that require scientific diving or are there things that you wish you knew before you kind of moved into this career where scientific diving would take up such a large piece of your time?

AS: I have a few things I can think of. 1, I don't know if this is still the case because I haven't been like hanging out at dive shops as much just because now I'm diving for work, but when I, and this would have been, when did I start diving? Like over 10 years ago, it was definitely a very male dominated space. So, I would say like, don't be... and I've heard from some friends that still started diving recently, that like that might still be the case. So, I would say don't be intimidated and like look for other women divers if you are feeling intimidated by that cause it's just... I think it's still one of these spaces that can be kind of like macho, you know, and it can be hard to kind of make a space for yourself there. So, I would say that's one piece of advice. Another piece of advice is just to dive a lot and to dive a lot with different people, in different places and just... I think being happy while you're diving is being comfortable, like you're comfortable with your gear, you're comfortable with your partner, you're comfortable with the plan that you have, and I definitely... when you're new, you're just uncomfortable because it's all new and it's kind of scary. And I think the more you can reduce the factors, like I remember being a new diver using rental gear that didn't fit properly, not really knowing people I was diving with and like that stuff really is scary. It's OK. Like I think the biggest thing for divers is like anyone can cancel a dive at any point for any reason. So... and when you're new, you kind of don't want to speak up. You don't wanna complain and so I would say like, try not to worry about that stuff. And if you're really uncomfortable, you learn from it, but you can also cancel the dive at any point because it is dangerous. You know, it's not to be taken lightly. And so, I think if you're young and you're new to it, you kind of don't feel like you can say something like I've had... I'm like a stickler for safety. And I like to do my safety check even when I'm diving for fun, even if I'm... whatever. And I've had people say like, oh we don't need to do a safety check and I'm just like well, I'm going to you, can do whatever you want, you know. But so, stuff like that happens sometimes and you kind of have to be like sure of what you want and what you think is best for you. Yeah, it's hard. I mean, I was a broke grad student when I started to like the gear is so expensive. So, I think just finding a good dive shop where you're comfortable, where they have nice rental gear, you know where, maybe like you can slowly work your way up to getting the gear that you want. It's just so expensive it's crazy. I remember buying X rental gear and scrounging my student loan money to buy scuba gear.

JM: Yeah, totally. And in terms like what you were saying about doing the safety checks, I remember even just when we were learning in the pool, like for a lot of people, you know, you've never been like underwater with the mask and with the tanks, and like everything, it's... it can be super overwhelming. So yeah, I remember having a really good instructor who was like, if you're not comfortable, don't do

anything and it just makes being in that weird environment so much easier when you're able to take it at your own pace.

AS: Exactly. That's the perfect way to say it, just like take it at your own pace and then, like, you unlock this whole magical, beautiful world of underwater. And it's so worth it all the work and training and everything cause it's amazing.

JM: Yeah, totally. And like, like I was saying, I haven't actually fully completed it. So, I've only really been in like pools and like on small lake. But it's funny how there's this idea that it's like very claustrophobic and scary. I can totally understand that. But in a weird way, like being underwater, just floating there and breathing and looking at everything around you, is so calming. I don't know if it's like the pressure of the water or what it is that I was like I have never felt more relaxed, in a weird way, even though there's so many things that could go wrong, yeah.

AS: It's so relaxing. It's so peaceful, I think....and it's silent, right? Like you drop your head underwater and all the sound goes away and you just see all around you. And I just love that feeling so much. I think it's true, the weightlessness, especially after, like, sometimes we dive with pony bottles, which means we have like a backup extra tank because of the cold water. Just like a backup safety thing. So, you basically have two scuba bottles. You have all this gear, you have a full dry suit, like you're wearing so much gear and you feel so uncomfortable, and then the second you get in the water, you're weightless and you're free. And it's like, beautiful. And anyway, it's pretty magical. And to do it for work, I feel so lucky.

JM: Yes. OK. Let's talk a little bit about your work. So you work at the Canadian Museum of Nature, which is here in Ottawa and an amazing, amazing place. If anybody listening is from Ottawa, I seriously recommend going for a visit. Can you talk a little bit about what you do there?

AS: Sure. First of all, I feel so lucky to work at a nature museum. I just think it's like a childhood dream come true, and the fact that I get to dive for work. I mean, I'm very happy and my job is pretty varied from, you know, like I was saying kind of from day-to-day. But basically, I'm a research scientist, so that means I have my own research program where I kind of decide what I want to study and what I want to focus on and like I was saying, we have collections. So basically, we have this beautiful downtown museum that has things on exhibit. You know, whale skeleton, dinosaurs, plants, animals, all kinds of different things. But this is like 1% or something of the actual collections that we have for research. And so, we have this research facility in Gatineau where we have millions of scientific collections that are studied by researchers in Canada and around the world. And so, what I do for research is to collect seaweed and add it to this collection and to study and study the collections. And help to curate them as well. And then I also help with doing, you know, outreach events at the museum and programming and that kind of stuff. So, I get to do lots of different things. I'm also director of the museum's Arctic Center, which kind of focuses on coordinating Arctic research at the museum. And so, I'm really enjoying all of that. And I really like that I get to, you know, spend one day in the lab, one day in the collection and one day downtown and presenting my work, that kind of thing. And I think what's most special about the museum is that we have this collection of expertise in taxonomy, which is really rare, like a lot of universities don't really focus on identifying things anymore. It's more just like, not trendy, I guess. But at the museum we have all these people, we have people that can identify grasses and lichens and seaweed and invertebrates and vertebrates and fish and all kinds of different things. And so, we get a lot of people coming to us like DFO or different government organization saying oh, can you identify our

collections and it's kind of cool, like a little hub of research focused on biodiversity and geodiversity. We have minerals as well.

JM: Was that your first kind of job right out of grad school, or did you do a postdoc or anything like that?

AS: It was definitely, it's my first real job, let's call it that. I worked at UNB after I finished my PhD. I did a postdoc for maybe six months or so, I think. Just sort of finishing up my PhD projects and helping undergraduate students, that kind of thing, helping other students in the lab as I was frantically applying for jobs. And when I got the museum job, like I still can... I still sometimes can't believe it. Like, it's really a dream come true. So, I'm I feel really lucky. And yeah, it was a really amazing learning opportunity. Like now I've been there almost five years and I feel like sort of OK like, I feel settled now, which is nice, you know. At first I thought, what do I want to work on? And it is really exciting. And you're also like, oh, I could do so many things and so many places. There's so many things I want to study and there's so, so many impacts of climate change that I want to investigate. And anyway, for me, working in the Arctic has been really inspiring because it's a place that's really, tends to be understudied, in the marine environment especially. It's really impacted by climate change and it's also just like, it's one of these places where you go... Cambridge Bay is such a welcoming little town and people are so friendly, they're so interested in what we're doing. I really love it there. So, and in Cambridge Bay, we've also been working at CHARS, the Canada High Arctic Research Station with Polar Knowledge Canada, they've been funding our work. They're so supportive of us. It's this amazing place to work because like the logistics are taken care of for you, for a lot of things. And so that's been really special too.

JM: So I'm not sure if you did say this before, but I think you mentioned you haven't done too much diving in like a tropical climate. Do you have a preference for diving in the Arctic or diving in warmer waters?

AS: That's such a good question. So, I actually did my first ever warm water dive this spring like I went on vacation to the Caribbean and did a warm water dive for the first time in my life. It was pretty spectacular, but it was like a vacation dive, like I think I like the challenge of diving in places where nobody's ever been in these like, really harsh environments and sort of challenging situations. But it was definitely relaxing to go in water that was 25 degrees Celsius and not have to have... Like, I didn't realize. Like so when you dive in a dry suit, you need a lot of lead weight to help counteract all the points. You've got all that neoprene and layers. So, I didn't realize like I went up to the guide in where I was in the tropics, and I was like, oh, I don't know how much weight I need. And he was like, well, you don't need any weight because you don't have like... And I was like, oh, OK, like I just didn't even realize. I was so free. Anyway, yeah. So and I was like, what do you mean? I don't need... I don't need a dry suit, I don't need weight, I don't need any of these things. I don't need gloves or like a hood or anything. So I definitely enjoyed it. But I think I like the challenge better in cold water diving.

JM: So what about Antarctica? Have you ever done any diving down South?

AS: No, I haven't. That would definitely be a bucket list item. Claire, who was with us on the Innu nation expedition, she's this amazing diver and she's done all this work in Antarctica and the Falkland Islands, that kind of thing. So she was telling us about it. And I thought that sounds so cool. So, it's definitely like a next level in terms of challenge. You know, living on a ship, scuba diving, the ocean is really... We were really lucky in Labrador, like it was perfectly calm every day and pretty warm outside the water. But Antarctica would not be like that at all. You know, it's like harsh environment both outside the water

and inside the water. But I still think it would be really, really cool. And there are seaweed. There's a lot of seaweed in Antarctica, so I would love to do some sampling. And I also really look up to Kathy Conlan, who was at the museum. She's retired now, but she did all this amazing diving in Antarctica in the 90s and it's like a real trailblazer. So yeah, I've got her for inspiration as well.

JM: Cool. Well, those are all of my questions. I learned a lot and I'm really jealous of what you do. I think that, like, I did my undergrad in marine and freshwater biology at Guelph. And I think watching videos of people diving to collect samples is always like the dream that kind of sets into motion wanting to be a marine biologist and go into research. Like, that's always like the most idealized position, like getting to spend every day in the water, you know, things change. But I still think it's really, really cool that you get to do that. Like you said, every day just for work.

AS: Ohh thank you. I definitely feel super lucky and I just think there's so much work to be done in marine biology. So yeah, I hope that lots of people you know, want to kind of go into this career and I just feel like there's so much work to be done and it's kind of sometimes... it's a little bit depressing with climate change, you know, like, I wonder how much things are going to change and how they're going to change. But like, well, OK. At least we're doing some baseline monitoring now to see how it is now, and then we'll see how it is in the future and go from there

JM: Well, thank you for coming on Arctic Minded and being a guest on one of my episodes. I'm so happy we got to talk and this was really, really great and I hope a lot of people can take away from some of the advice that you've given and just with your journey into this career and yeah, thank you so much for being here.

AS: Thank you so much for having me. It's really fun to chat and I love talking about scuba diving, so yeah.

JM: I want to thank Amanda again for clearing time in her busy schedule to be a part of Arctic Minded. This podcast is all about sharing people's stories and different ways that they connect with the Arctic. Check out our website for pictures and links that are relevant to today's episode. If you enjoyed this episode and want to learn more about ArcticNet, you can find us on Twitter, Instagram, Facebook, LinkedIn, or on our website. If you have an Arctic related story that you would like to share with us on this podcast, we would love to hear from you. You can find a participation form on our website or contact me directly. Until next time!