Transcript for "Ayesha Davis, Meteorologist at the National Weather Service in Boulder, Colorado"

Clear Skies Ahead: Conversations About Careers in Meteorology and Beyond

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Kelly Savoie: Welcome to the American Meteorological Society's podcast series, **Clear Skies Ahead: Conversations about Careers in Meteorology and Beyond**. I'm Kelly Savoie and I'm here with Rex Horner, and we'll be your hosts. We're excited to give you the opportunity to step into the shoes of an expert working in weather, water, and climate sciences.

Rex Horner: Today, we have the honor of introducing **Ayesha Davis**, a Meteorologist at the National Weather Service in Boulder, Colorado. Welcome, Ayesha. Thanks very much for joining us on the podcast today.

Ayesha Davis: Super excited to be here. So thank you all for inviting me.

Kelly: Ayesha, could you tell us a little bit about when you became interested in meteorology and how it influenced your educational path?

Ayesha: Sure. Mine was pretty different. It wasn't the traditional "I love hurricanes" or "I love tornadoes." Mine was in eighth grade. I really liked learning about clouds. I was like, "Wow, this is amazing. Science is so cool. You can see it. You can do it." So I was really interested in learning more about clouds and meteorology. And then all of a sudden eighth grade kicked in and we started doing standardized testing. I'm like, "Well, where's more of the science? I want to learn more about meteorology." So I started taking more classes online, and then I went to college and that's what I wanted to pursue. I knew I wanted to do something in science and I really loved learning. And meteorology is that science where you're always learning. So that's why I chose meteorology.

Rex: That's so great to hear, Ayesha. I want to dig in a little bit more about how you were able to focus your learning as a high school student on meteorology. It sounds like online classes meant you were able to access the internet in your high school career, which was not always the case for some of our older meteorologists on the program. Let us know how you found those classes and what they were — that you were able to discover that supplemented your high school curriculum.

Ayesha: Yeah. So I did look into COMET when I was in high school. I found that was really cool. Some of the classes there are like three hours. But nonetheless still free information, right? Still cool stuff.

Kelly: Definitely.

Ayesha: Exactly. So I was like, “Oh, this is great. I'll try it.” I liked it a lot. And then I started watching The Weather Channel in high school. I guess every, every weather person watches The Weather Channel once in their life and they go, “Ah, I wish I can do that.” So that's something I started watching. Also Weather Underground. They have more like an educational mix to their shows, not just the weather or the seven day. It's more like explaining the knowledge behind the forecast, which I really enjoyed.

Kelly: And so for university, did you know where you wanted to go or did have a handful of colleges that you were interested in? How did that work out for you?

Ayesha: Yeah, so I started looking in senior year and a lot of the colleges in Georgia, they don't have meteorology. I believe Georgia Tech and UGA, they're both kind of in that meteorology realm. But at the time when I was in high school, UGA didn't really have a solidified meteorology program yet. And it was only Georgia Tech. And I was like, “Oh, I don't know if I want to go to Georgia Tech.” No offense to Georgia Tech people. Great school, just not for me. And plus they had a lot of engineering at that school. Just wasn't that meteorology focus that I wanted. So I saw Florida State. I was like, “Okay, only four hours, three hours away from home. This could work.” So I drove down south to the panhandle — Tallahassee, Florida — and I went to Florida State.

Rex: All right. From reading your resume, I can tell that when you got to Florida State, you didn't just take your classes. You did a lot of extracurriculars, and I can see some of them here. I'd love to hear from you how you started to get into things outside of your coursework that interested you and helped you feel like you were pursuing the career and the passion that you wanted to have.

Ayesha: Yeah. The problem with me is I love to try everything and learn everything. That is a dangerous, dangerous thing for me.

Rex: Or a valuable attribute. Tell us about where you started.

Ayesha: Once I got to Florida State — of course I've been watching The Weather Channel. I'm like, “Oh, I really want to do some forecasting, some broadcast meteorology.” So I got behind the green screen at Florida State. Florida State actually has their own student-run show. So there's no adults, I guess —how should I say it —professors chaperoning us on the show. It's all student-run. So I started doing Wednesdays. I loved my show. Webcam Wednesdays was my thing. So I was excited to do the show always every week. And then I also started doing more forecasting by myself. More like in a journal. I didn't really have a blog or anything like that, but more just like picking numbers, picking a city, crossing it out if I didn't get it, checking it if I did. Sort of a personal forecast.

Rex: All right. So just verifying on pen and paper — verifying your own forecast — just seeing how you do. Sort of like solving a crossword puzzle. No one needs to know how well you do except for yourself. And you can of course feel proud of yourself when you get it right.

Ayesha: The checkmark feels good.

Kelly: I know. And that's such a great opportunity too, because that's how you learn, right? You learn from your mistakes.

Ayesha: And I learned that I didn't know winter weather, but I was really starting to get good at tropical [weather] in Florida state. So that's the greatest part. After that I started interning at places. I started doing internships with NOAA and with broadcast meteorologists across Georgia. So I worked in Macon at an internship on TV. And then I learned, "Oh, I want to do so much more. I've got to do more." So I started interning again. I interned at Penn State to be a researcher. I did that for a summer. And then I was like, "Well, what's the public sector look like?" So then I started interning at the Florida Emergency Management Office. Which is great because they have so much to offer there that I feel like that's one of the biggest emergency management offices in the country — in Florida. They just have a massive amount of employees all working towards emergency management. So I worked in the Floodplain division, which was awesome. I learned about risks for flooding, water, all those different types of things. And then I went into NOAA. So yeah, I tried a little bit here and there.

Rex: Yeah, for sure. So you hit up the public sector, the private sector, and academia. You really covered the swath of industries you could explore coming out of college. And I also see that you did some climate change work and you also were involved in social media as well. So a lot of pretty relevant and diverse areas within weather.

Ayesha: Yeah. And I think it was just growing and learning all the different parts and seeing how they all come together. And then when I found out it was really that — honestly, it seems like NOAA is one of those hubs where they all kind of come together. So for me, I really wanted to work at NOAA. So that's where I got my job.

Kelly: Well, it sounds like you did everything perfectly. You were very proactive in high school and you knew immediately that you wanted to major in meteorology. You did internships, which is great. You did a bunch of different sectors. So you knew what was the thing you liked the most. But given all that, is there anything — I'm not sure if there is — but is there anything that you wish you had done a bit differently?

Ayesha: Yeah, there is actually. Everyone always has regrets, right? Everyone always has regrets. In college, I really didn't excel the way I wanted to just because I didn't have that math background. Meteorology is really intense math. It's not the easiest science for sure. I guess no science is easy, but meteorology for math is on another level, right?

Rex: Yeah. We've heard that a lot.

Kelly: Yes.

Rex: The calculus.

Kelly: It's quite difficult.

Ayesha: Yes. The calculus.

Kelly: Differential equations. Yikes.

Ayesha: The pain. Those classes are extremely tough. And going to tutoring every day, that was just not something I was used to. I just thought you go to class, you do the homework, you get good grades, you go be a meteorologist. But that is not the case.

Rex: My understanding is that the Florida State University degree is in environmental science, but then you minored in mathematics and meteorology. So you ended up getting mathematics onto your diploma. Is that correct?

Ayesha: Yeah. Somehow I made it through.

Rex: Well, congratulations.

Kelly: Yeah. And that's good for our listeners to hear because if somebody isn't doesn't excel in math, we don't want to discourage them from pursuing careers in meteorology. It sounds like you got some tutoring for classes that you had difficulty in and you just kept with it.

Ayesha: Yeah. It was a long road. I can't say that it was perfect. And I can't say that I don't have regrets because there are times where I had teachers tell me, “You need to go to another major. You need to do something else. Don't go to graduate school in this.” But I mean, it's something that if you really love it and you have passion for it then you find ways to keep going and striving for better.

Rex: Well, spoiler — you did go to graduate school, Ayesha. So tell us how you chose your graduate school and then what your first job was out of graduate school. Not to say that being a student isn't also a full-time job. I don't want to discredit everyone who's a student thinking that they haven't had a job yet, because it's a lot of work.

Ayesha: True. Yeah. It's a full-time job being a student. So right now I'm at CSU, which is Colorado State University and I'm majoring in meteorology for my master’s. So I'm trying to work on wildfire research right now, but I'm still taking classes. So yes, if you're a student, you have a job because being a student is your full-time job. And I really wanted to keep learning. That's just a personal goal of mine. So that's why I wanted to continue at CSU for graduate school, even though I'm working.

Rex: And where are you working?

Ayesha: Yeah, I work at the National Weather Service in Boulder. So my days are usually Fort Collins to Boulder.

Kelly: So could you walk us through a typical day on the job as a meteorologist at the National Weather Service so our listeners can get a good idea of what you do?

Ayesha: Yeah. So usually as a National Weather Service meteorologist there's a lot that goes into the forecast. Not only do you forecast, run, look at models, and look at data —

sometimes we have internal models just for our office too, just to see things like high wind potential or freezing rain versus snow. There's always different aspects of the models you look at depending on what type of weather. So usually you come in the office, you kind of get that briefing from the last shift, and you look at target opportunities where you can make the forecast better. So human versus model. You're adding value to the forecast. So you find those target of opportunities to really get in on the forecast. And then there's of course, answering the phone, doing briefings, all those great things. I love doing those. Interviews and things like that. Those are all spread out through the day-to-day.

Kelly: It sounds really diverse. And I have a question about working at the National Weather Service. So if you're a meteorologist at the National Weather Service, is it the same type of position for each office or are there different roles for meteorologists?

Ayesha: There are differences. I would say you're a meteorologist at any office in the National Weather Service, but the roles are different depending on where you are. So if I'm a forecaster at San Diego, I have different responsibilities. So I have marine weather. I have things like that versus Colorado where I don't necessarily look at marine weather, but I look at aviation because our airport is the sixth largest airport in the nation. So I have to make sure that the airport is running as smooth as possible if the winds change. So it's different everywhere you go.

Rex: Ayesha, my next question is what you like most about your job? And for our listeners, I'm looking at Ayesha over Zoom and when she was describing her typical day, she had a huge smile on her face and she's been smiling talking about her career the entire time. So I'm pretty sure that she likes most of her job, but I want to hear from you what parts you might choose for what brings you the most happiness or feels the most valuable to you.

Ayesha: There's probably two parts to this. On kind of the high impact weather days, it's valuable when they say — for example, CDOT, they're the Colorado Department of Transportation — they tell you, “Thank you so much for that forecast because we got people out of there. We got our roads cleared. We knew what time that snow was starting so we knew what time to exactly plow those roads so that the morning rush can get in and out of work.” That feedback is so valuable. And then there's always the old grandma that calls the National Weather Service and she says, “Man, you guys have been right the whole time this week on those temperatures. I really appreciate that because my garden is flourishing.” So it's always nice to hear that from all the way up from that high end user, all the way down to someone who's just treating their garden is just happy enough to get a forecast that's accurate. So it means a lot to me for that.

Kelly: It's great to be appreciated. Do you ever get the calls where people are not happy about your forecast?

Ayesha: Oh yeah. There's always that one guy who's in the mountains. Somehow he has cell service. He goes, “Okay, the winds are definitely not 20 miles per hour. They're 45 up here.” And I'm like, “Where are you? Can you give me your location?”

Kelly: So besides those challenges, what would you consider the biggest challenge working in your position?

Ayesha: I would say that — I guess everyone has their preference — but Colorado is definitely one of the hardest forecast places in the country. I mean the Rocky Mountains really shake up the weather here as far as winds or fire or winter. I mean, we could have all that in one day in Colorado compared to things like North Carolina or South Carolina. It was a little bit different there. But yeah, I feel like the models are great, but they're not perfect so that's why we're always needed here. We always need a human forecaster because it gets messy during those fire winter weather days.

Kelly: Right. But you do get a lot of sunshine. I think I read somewhere that Colorado gets — I don't know — 362 days of sunshine a year. Is that true?

Ayesha: I think it's true, personally. Coming from the South living here, I was like, "Wow, the sun is just close. I need sunglasses." I mean, when it snows on the ground here and the sun comes out, it's crazy. I mean the reflection is really bad. You need sunglasses here. So it's just different. Everywhere is different, but Colorado has its quirks.

Rex: And what is it about the Rocky Mountains that makes it so difficult? Is it because they're tall enough that they just sort of throw a monkey wrench into weather patterns?

Ayesha: Yeah. I guess you could say that. That kind of sounds right to me.

Rex: How would you explain it to a lay person about why the Rocky Mountains are such a challenge when you're forecasting weather?

Ayesha: Yeah, I guess I would say, for example, you go on your roof and you have a ball and then you throw it down. The Rocky Mountains are basically gravity plus wind. And so when that ball goes down, who knows where it's going to go, because that's what the Rocky Mountains do. They just influence every single a thing that happens.

Rex: All right.

Ayesha: So there's always an influence at the Rockies.

Rex: Well, I have another experience you've taken part in I'd like to ask you about. You participated in NOAA's Cooperative Science Center and Atmospheric Sciences and Meteorology. Could you tell us about what that is and why it was interesting to you?

Ayesha: Yeah. So NCAS is something that's at multiple schools. So it's at San Jose University. It's at Howard University. It's at Jackson State. It goes across about 12 universities. And then this way students can get their experience within NOAA by taking on internships. So I interned at the Hurricane Center. I worked on a social science project, dealing with meteorology and social science for end users. Basically high end users who are marine people, so people who have boats or things like that. So yeah, that's what I worked on,

which I really enjoyed and getting that experience was pretty awesome, I'm not going to lie.

Rex: What did it take to apply? What were the prerequisites or the eligibility you had to meet?

Ayesha: So within NCAS basically what happens is you always have to take a NOAA internship and that's within your first or second year in your degree. So that's what I did. And then basically on the other side, NOAA puts out a call. So they put out a call for students, but it's internally. So that's only something that our universities can see. It's not something that everyone can apply to, which is great because you get that real experience.

Rex: So being a part of the universities that are within this cooperative can be pretty valuable to students.

Ayesha: Right. Exactly. Because you are getting an opportunity that not others can get outside of NCAS, because these are internal opportunities. There's always that challenge of competing against a lot of people when you apply to opportunities as a student, sometimes across the country. But this one is easier because you have less competitive spots. That way you could kind of get an opportunity to take that internship. And the fact that you have to do it for graduation really helps too.

Rex: Right. And one last question for you on this. Do you think that the type of work you take part in on these internships is different than something that might have a larger potential body of applicants?

Ayesha: Yeah. I think it was different just because I've been through a few internships. And this one was different because I was working with people from NOAA HQ. I was working with people at the Hurricane Center. And then kind of morphing all of them together and getting that summer project done. But it lasted about three months, which is pretty long. And you also get paid, which is great.

Rex: A big bonus.

Kelly: Oh, wow.

Ayesha: Super big bonus.

Rex: How could you not tell us that from the beginning?

Ayesha: No. Yeah. Miami's expensive guys.

Rex: I believe it.

Ayesha: Yeah, you get paid. You get housing, and you get food, and then you get paid. You don't get paid for transportation to say a Lyft to your job. But overall you still get a really good amount of money to survive, which is great as a student. So that was awesome. But I

could walk to work because the Hurricane Center is on FIU's campus. So I just stayed on campus and then walked to work in the heat.

Kelly: Well, it sounds like you've had some really awesome experiences and this will lead me to my next question, because it sounds like you would be the perfect person to provide advice to students. What are some of the do's and don'ts that students should know about for pursuing careers in meteorology?

Ayesha: Yeah, I think with the do's. So let's start with the do's. I think something that students should know is that there's so many different ways to get into meteorology. For example, we talked about my degree is not meteorology. It's environmental science, but I have courses in meteorology and things like that. So there's always a way to get into meteorology. It doesn't have to be a straight line path. It doesn't have to be undergrad, masters, PhD, meteorologist. It does not have to be that you can make it your own way. It might be different. You might be going to different places that you've never even heard of, like Cheyenne, Wyoming. But you know, it's an experience. You're always learning some, which is great. So no matter where you end up in, you can find your way and find your path through meteorology, which is why I really like this field. So I guess some don'ts, right?

Rex: Yeah, let's hear about those.

Ayesha: I've got to talk about some don'ts. Some don'ts would probably be kind of doubting yourself. There's a lot of comparison in this field. It's really easy to compare yourself to others or where they're at in their journey. So sometimes you're like, "Well, why didn't I get this job? Or why didn't I get this opportunity? But the time comes. Sometimes it takes longer for someone else to make that journey. Or maybe it's shorter. So that's something that I had to learn watching others grow, going, "Well, when will I be able to do this or that?" And then finally kind of getting my groove, kind of getting my path and figuring out where I wanted to go. So that just takes time. It just takes time to grow in meteorology. And it's hard to see it because it's hard to compare.

Rex: That's an incredibly valuable point to end on. So thank you so much for sharing. However, before we truly end the podcast, we always like to get a look at the person behind the meteorologist and ask a sort of unrelated question just to wind down. So let's exit talking about your all-time favorite movie. I heard you have a good one.

Ayesha: Okay. Yes. All right. My all time favorite movie has to be *Terminator*.

Rex: All right.

Ayesha: *Terminator* is my all time favorite.

Kelly: *Terminator* is awesome.

Ayesha: Yes. I really love that movie. And when I first watched it, I was like, "Why would I watch this old movie?" I'm not going to lie. I was like, "I don't want to watch this." But then I

watched it. I was like, “This is great. This is the best thing I've ever seen in my life.” I don't even want them to redo them. They can't. It's not possible.

Rex: I hope they don't. Seems like for now they're still just kind of going forward with the franchise and not rebooting it. But I can tell you, so when I watched the *Terminator* for the first time, I was pretty young. I saw it on DVD or video. But that scene at the end when the Terminator is going after Sarah Connor in this tunnel and it's crawling and its eyes are red, that was a straight up horror film.

Ayesha: I know, right?

Rex: I was terrified.

Kelly: It was scary. It was totally scary.

Rex: They really made you feel like it was happening. I suspended my disbelief entirely. That's what makes a great film. I bet you might also like it, Ayesha, because it kind of shows the difference between what a human can do and what an AI can do. And you talked about that before.

Ayesha: Yes. I mean, that is like iRobot kind of. Those movies where you have like robots take over. Those are the best films.

Rex: So you're a sci-fi person to a degree?

Ayesha: I'm super sci-fi.

Rex: I love it. Well, hopefully we can have you back some time or talk some more about sci-fi and whatever will happen next for your career.

Kelly: Yes. So thanks so much for joining, Ayesha, and sharing your work experience with us. It's been a pleasure.

Ayesha: It's been fun. I really appreciate the opportunity. And anyone out there hoping to get into meteorology, feel free to let me know or just contact me on Twitter or email me.

Rex: We’ll make sure when we share the episode to give your Twitter handle and ways for folks to reach you. Anyway, thank you again, Ayesha. That's our show for today. Everyone else, please join us next time — rain or shine!

Rex: Clear Skies Ahead: Conversations about Careers in Meteorology and Beyond is a podcast by the American Meteorological Society. Our show is produced by Brandon Crose and edited by Peter Trepke. Technical direction is provided by Peter Killelea. Our theme music is composed and performed by Steve Savoie, and the show is hosted by Rex Horner and Kelly Savoie. You can learn more about the show online at www.ametsoc.org/clearskies and can contact us at skypodcast@ametsoc.org if you have any feedback or would like to become a future guest.