Transcript of "Doug Hilderbrand, Weather-Ready Nation Ambassador Lead at the National Weather Service in Silver Spring, Maryland"

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 on careers in the atmospheric and related sciences. I'm Kelly Savoie, and I'm here with Rex Horner and we'll be your hosts. Our podcast series will give you the opportunity to step into the shoes of an expert working in weather, water, and climate sciences.

Rex Horner:

We are excited to introduce today's guest, Doug Hilderbrand, Weather-Ready Nation Ambassador Lead at the National Weather Service in Silver Spring, Maryland. Welcome, Doug. Thanks so much for joining us.

Doug Hilderbrand:

And thank you for having me.

Kelly:

Doug, could you tell us a bit about your educational background and what sparked your interest in science?

Doug:

Absolutely. Like a lot of meteorologists, my interest in the weather started at a very young age, growing up outside of Philadelphia and in the suburbs. Really our most extreme weather growing up were blizzards and nor'easters. When I was in fourth grade and I remember it like it was yesterday, we had a two foot snow storm in February of 1983, so I'm dating myself. But it was one of those events that really captured the imagination of the atmosphere and of the power of the earth dynamical system.

Doug:

In fourth grade I knew what I wanted to be. As I went through my education and in my K-12, I always had the dream of becoming a meteorologist. That's where my educational background kind of takes a tangent where when I went to college, and back in the early 90s there wasn't the internet and information on what programs are out there and where to go to college didn't really exist. And so I went to a small liberal arts college, Bucknell University, that did not have a meteorological program. So I took something that was close to the weather and that was geology and I enjoyed it, fell in love with it, but I was always looking for that meteorological program.

Doug:

My background continues on a tangent in that I struggled on the math requirements side. Not having a job after graduation and not really knowing what to do, I went into graduate school at the University of South Florida in geology, working on paleoclimates. And so I'm inching closer to my dream of

meteorology by studying past climates from a coral that grows in the South Pacific Ocean, studied geochemistry of that coral that translates to sea surface temperatures. It continued to get very, very interesting when it comes to climate dynamics, climate change.

Doug:

After I received my first masters, I eventually was like, "I'm going to take the math. I'm going to take all the prerequisites for a meteorological program." After all of that was done, I went into the NC State meteorological program, it's earth atmospheric science. And so I was able to tie my geology interest in teaching with my graduate program in meteorology. Got my masters and shortly thereafter entered the National Weather Service, and eighteen years later here we are.

Kelly:

So you mentioned that you had trouble with some of the math courses. Do you have any advice for how you managed to conquer that?

Doug:

It's intimidating, but if you rely on the teacher to teach even though it may not be your strength and you may not think of yourself as a mathematician, if you persevere and get through it you don't necessarily need to get straight A's. I actually struggled in my Calculus 1 and Calculus 2 classes, which then set me on my heels. It's like, "Oh, if I'm not superior at the calc one, calc two level, what am I going to be in calc three?"

Doug:

I actually got an A in Calculus 3. I survived linear algebra. And then I got an A in Differential Equations and that really gave me the confidence. When I went into the meteorological program at NC State, I had never taken a meteorological course throughout my entire career. And here I am going into their master's program and what was great with that was I was able to take concurrently the undergraduate courses. So it was sort of like undergraduate and graduate program all at once.

Kelly:

Yeah. We hear that a lot from people that we've interviewed that some struggled in math, but that's some good advice for our listeners who really want to have careers in meteorology who might not have strengths in math. Just persevere like you said, keep going. It might be tough, but you'll get through it.

Rex:

So Doug, you said you ended up at the National Weather Service after your second master's degree. Why did you settle on NWS as an employer? How did you find out about the work you wanted to do for them and what was that job?

Doug:

You have to have a little bit of context here. I had been a student in college for ten years. I was finishing up my second master's degree. It's not as glamorous of a story as I'd like. But basically Christmas was approaching, here I am almost 27, 28 years old, not having had a real career job and so I applied to the Hydrometeorological Prediction Center. They had an entry level position as a surface analyst. I was

curious enough to apply just so that at the dinner table at Christmas dinner, when my grandmother or my family asks me, "When are you going to get a job?" I can at least answer, "Well, I've applied for one."

Doug:

And lo and behold it was sort of a blink of an eye but that following February, I was moving from Raleigh to Alexandria, Virginia. I had about a fifteen-minute commute to Camp Springs where the NCEP [National Center for Environmental Prediction] building was originally back in 2002. Here I am as a National Weather Service employee working shift work, issuing real weather products, basically reaching my dream as a fourth grader.

Rex:

And you were with NWS for eighteen years, I assume you had a few other positions along the way. Could you take us through that pathway?

Doug:

Well, I'm going to start off with a challenge to everyone who thinks what decisions have to be made as you really look at your career and where you want to go. And one of those defining questions is, do you think that you would thrive with shift work 24/7? The weather doesn't stop, whether you're in a government agency like the National Weather Service or the private sector, oftentimes they are 24/7 operations or near 24/7 operations.

Doug:

And I struggled in my two and a half, three years at HPC with shift work. Eventually I said, "I can't see myself over the long term going through shift work." And so I looked to headquarters where most of the jobs are Monday through Friday 9-5. Some people do. They love the flexibility and the different hours of shift work, but it is something that when you are a student, really look at yourself, look at what you're comfortable with. Are you comfortable working Christmas? Working seven nights in a row? Which can get actually very lonely. These are tough questions and it's always better to start chewing on those questions sooner than later.

Kelly:

So Doug, what opportunities did you pursue either inside or outside of school when you were attending school that you thought would be beneficial to securing a job? Did you do any internships or take any additional courses? How did you plan?

Doug:

Yeah. I did intern at a company that was doing some environmental work tied to resiliency and being prepared for disasters, especially natural disasters. That gave me a really good understanding of the way emergency management works, and the partners of government agencies such as National Weather Service.

Doug:

The other thing, I think that was a strength of mine and my education was the broad education that I did get. I went to a liberal arts college. I didn't get a bachelor's in science. I got a bachelor's in arts where I

was taking courses like psychology, sociology, law, economics. You can think what do any of those courses have to do with meteorology?

Doug:

Number one, it allows me to make connections between the meteorology and the societal impacts through the social sciences. But it also helps you communicate your thoughts and being strong as a writer, being strong as a speaker. If you're finding yourself mostly focused on your mathematics, on your sort of meat and potatoes, meteorology courses, I would invite you to look at other interests that you may have, or other angles of approach when it comes to your job searches. Because being a strong meteorologist is valuable, but if you're a strong meteorologist with a second interest that you have a sharp background on that really helps I think, in applying for jobs.

Kelly:

So speaking of that, how do you see the future job market for careers in your field?

Doug:

Wow, that's a really important question I think for all of us. Through my experience in the last ten years really working from a communications and a strategic view of the National Weather Service, our partners as the Commissioner of the Weather, Water and Climate Enterprise here at AMS, I see that there will always be opportunities to improve the science. If you do have that sort of traditional meteorology interest and background, and you love the science and you love the forecasting, I think there will always be opportunities to get better and accuracy on our forecast.

Doug:

But I think what has really changed over the last ten years and will continue to change is the connection of the forecast to the societal impacts. There are an infinite ways that weather impacts society and we see that during every disaster, we see that every day where the economy can shift based on weather patterns. As populations continue to grow, as our resources continue to be strained, and of course the whole climate change dynamic I really see opportunities opening up into areas of the economy and sectors that maybe not have had a prominent connection with weather and weather forecasting.

Rex:

So, Doug, I think we need to figure out exactly how you got to your Weather-Ready Nation Ambassador Lead position. And then I want to ask you, what's a typical day on the job like in that position? So we figured out that you didn't love shift work, and then we need the transition from there.

Doug:

Right. To kind of fill out the story. I eventually did get a job at headquarters and I've been at National Weather Service headquarters there in Silver Springs, since 2004. Went into the science and technology office there, worked on things back in topic areas back in 2000. The aughts of 2000 were forecast uncertainty, ensemble models, worked things like fire weather, space weather, things that really were brand new in its infancy of our mission.

Doug:

That was amazing experience and really strengthened my science and technology background. But the game changer for me was also a game changer for the agency and in many ways a game changer for the weather enterprise. And that was April 2011. At the time I was taking a two-year detail working for the NOAA Administrator, Dr. Jane Lubchenco, and Kathy Sullivan. Dr. Kathy Sullivan was, I think at the time about to become the Deputy Administrator, I think, a month later.

Doug:

But this was a time when the Southeast tornado outbreak, the Joplin tornado in May of 2011, these were seminal events that really changed the way we do business from a government perspective and from an enterprise perspective. Here you have a tornado outbreak that was well forecast, lead times that were above our goals and yet over 300 people lost their lives in the Southeast because of those tornadoes and over 150 in Joplin.

Doug:

The sort of crossroads that we reached was that it's not just the forecast accuracy that results in a good outcome, but it's really that extra... How are we communicating and working with our emergency managers? How are we making the weather forecast actionable to communities? With that, grew Weather-Ready Nation. So 2011 was this inflection point, Weather-Ready Nation became a thing. We had a Weather-Ready Nations strategic plan and a roadmap for improving our services. I was sort of at the tip of the spear and all of that.

Doug:

When I went back to the National Weather Service after my detail, I was working in the communications office on Weather-Ready Nation. Weather-Ready Nation as a brand and as a movement got some excitement through the weather industry and within AMS. We actually had people come to us from the private sector saying, "We love Weather-Ready Nation. How can we be a part of it?"

Doug:

So we're talking 2013-ish and we didn't really have that good of an answer. But what we did is we took that challenge and we went back to the whiteboard and I was on a small team where we sketched out, "Okay, how can other organizations take partial ownership of this thing called Weather-Ready Nation?" And we sketched out this Ambassador initiative, it recognizes organizations of all types, not just the organizations within the weather enterprise. I'm proud to say having led this initiative for the last five or six years, we just passed 11,000 Weather-Ready Nation Ambassadors.

Rex:

That's amazing, that's awesome.

Doug:

Yeah. Organizations from Starbucks and FedEx and Home Depot to a couple of breweries, to thousands of emergency managers. We've got TV stations—I'd say at least 150 TV stations as Ambassadors. When you talk about community resilience and preparedness for extreme weather, you have to look at the whole community. You can't just target the emergency management function or the transportation

function. You have to look across, sort of close your eyes. What makes up a community? And those are the Ambassadors that we're looking at.

Doug:

Places of worship, fire departments, organizations that either have a direct link to the Weather-Ready Nation mission, or even just play a role by being an example themselves. They really don't have a connection to weather. It's been a real thrill of mine. We'll be hitting 20,000, I'm sure.

Kelly:

So can you give us an idea for our listeners who might not be completely familiar with what a Weather-Ready Nation Ambassador is, how you become one?

Doug:

Sure. So it's aspirational. It's targeting organizations and not individuals. It's the organization that you can represent. It can be a school. Again, it could be a church, it could be your employer, but it's organization-based. We ask four things. One is to share Weather-Ready Nation content. Weather safety, weather events that are in your community, that type of thing. We ask you to partner and collaborate with NOAA and the National Weather Service.

Doug:

I think fundamentally by being an Ambassador and NOAA running the Ambassador initiative—it's a commitment to partner. That we're all in it together that it's not just government trying to fix everything themselves, but really embracing the spirit of partnership, walking the walk instead of just talking to talk.

Doug:

And then once those two things are ongoing, share success stories. We want to hear about your successes in helping build Weather-Ready Nation. And then also serve as an example to others. Whether it's your employees, whether it's your family. Those organizations have large points of connection, your social network, social media platforms. All of that adds up to a very profound strengthening of our collective resilience.

Rex:

How are you achieving that on a daily basis?

Doug:

A lot of people will kid with me over the years that it's sort of just me, but that couldn't be farther from the truth. The reality is we have 122 offices across the country. Every office is participating in engaging their local organizations to be Ambassadors. And it's been very satisfying working with offices across the agency, but then also working across our Ambassadors and some of the best Ambassadors are ones that are engaging organizations to be Ambassadors.

Doug:

And I'll give you one example. We really struggle in America with mobile homes and manufactured housing and the threat of tornadoes. We've seen it this year. We've seen it in past years where there are anchoring problems with these structures and people taking shelter in less than ideal places.

Doug:

We've had Ambassadors within the weather enterprise actually engage associations that represent manufactured homes. We've engaged engineers who are experts at the impacts of high wind events and have really identified that it's not so much the actual box that is built, but it's how that box is anchored to the ground and what happens even in a severe thunderstorm, but even in tornadoes, is you lose that connection to the foundation. That's when very bad things happen.

Doug:

So this is an example of if we weren't within this Weather-Ready Nation paradigm, I don't think these connections would have been made. But because we're looking at it from a community perspective and not just a forecast accuracy perspective, we're able to ask hard questions. We're able to engage homeowners that maybe think that their home is safe when it's not, and that they can take other actions to protect themselves because ultimately that's what's driving our mission is, is the saving of life and property, not necessarily just the forecast accuracy.

Kelly:

In your communication department, do you put together any informational pamphlets, tips? Do you have Weather-Ready Nation events or anything that you run to help promote the program?

Doug:

Very much so. And I like to use the analogy that we create a buffet and our Ambassadors are able to engage on the various opportunities that we provide. So just the buffet table, you can eat little portions of everything on the table, or you can eat a lot of just one thing. We give opportunities for Ambassadors to engage. One awesome example, it's my favorite example is our Safe Place Selfie campaign. Where we encourage our Ambassadors and individuals across the country to recognize and identify where their safe places from various hazards and take a selfie and post it on your social media platform and #safeplaceselfie.

Doug:

We've reached the last couple of years over or just about a hundred million Twitter accounts. And this is a great campaign because it captures preparedness and action. When you take that selfie, you're not just saying, "Yeah, I know where my safe place is," but you're actually going there to that location and taking a selfie. So that's just one example. But we have safety campaigns. And to answer your initial question, if you go to www.weather.gov/wrn, it is a treasure trove of resources.

Kelly:

Excellent.

Doug:

Yeah. Infographics, safety content for all the various hazards that we look at. Within this Weather-Ready Nation paradigm, we pay close attention to those who are most vulnerable. So on that website, we have web pages for the deaf and hard of hearing, for learning disabled where there are pictures instead of words that describe the weather hazards. We have a lot of Spanish language content. It really is focusing on a Weather-Ready Nation for all.

Kelly:

So you do a lot. Is there anything in particular that you like the most about your job?

Doug:

Wow. Well, I do love the social media aspect. I think getting in the proverbial captain's chair, when you're in a Twitter account of three million followers, that's a pretty good rush. It sure beats my 700 followers on my private Twitter account. I love that connection where you have a voice even though you're sort of anonymous. You have a voice and even today on our Ambassador Twitter account, I'm looking at different angles to get to people. Weather safety, I will be blunt, it's kind of trying to feed broccoli to a child. People know it's good for you, but there are a lot of other things people want to eat, right?

Kelly:

Mm-hmm.

Doug:

So weather safety is important, it could save your life. It could save the life of a loved one. You have to do some razzle-dazzle carrying the analogy forward. I grew up with just boiled plain old broccoli, but if you put the olive oil drizzle and the sea salt and you bake it and it's crispy, wow, that broccoli doesn't necessarily just taste like broccoli. It tastes yummy.

Doug:

Part of my job is making weather safety, weather preparedness, Weather-Ready Nation a fun exciting thing that people want to do and not just, "Well, it's good for you." So that's the best part of my job.

Rex:

What's the most challenging part of your job?

Doug:

There are times I feel alone in caring so much about weather safety and preparedness. I don't make a forecast, I'm not right or wrong on that forecast. There are frustrating days. If you scroll through social media you'll see a post of words of inspiration to get through the tough times. Overcome and all these things that you need to do. And it's true. That you have to dig deep at times to make sure people are energized and motivated and excited.

Doug:

I learned a few years ago, it was a great speaker who talked about humans have a finite amount of worry that they can deal with. I think if you look around what worries you and what doesn't worry you, that makes sense in many ways. We push things off that we should be worrying about to the side, because we have something that's taking up all of our time. People aren't worried about tornadoes, unless there's a tornado coming. Right?

Rex:

Right.

Kelly:

Right.

Doug:

The biggest challenge is, how do you stay up on carrying out the mission 365 days a year when people's attention and their ability to worry about something — people aren't worried about the weather every single day. We're just looking for ways to make sure that before hurricane season people are figuring out, "Yes, I need to do these three things. I've got time now. I'm not going to have as much time or even worse when I'm trying to do these three things, everyone in my community is trying to do those three things and so there's a log jam." That's the challenge every day.

Kelly:

So how is it working at National Weather Service headquarters in your position now as far as work-life balance?

Doug:

I couldn't be happier, to be honest with you. I know this isn't reality for everybody, but whether it's my immediate supervisor or just the culture, really, since the pandemic started we've been teleworking every single day. I feel like I haven't missed a step. Before the pandemic, I would telework once, sometimes twice a week. And it really helped me be able to put in my time, be productive. I always tell people I'm more productive at home than I am in the office because the office just gives you more distractions, more people trying to get your attention and whatnot, and I'm unable to focus on what's important.

Doug:

So that's been a lifesaver. I can't speak enough about effective teleworking. I look forward to continuing that now that I think over the last four months people have really shined where maybe they didn't think teleworking was as effective as being in the office. But also there is flexibility and I think the take-home message to people is you build that relationship with your immediate supervisor.

Doug:

I don't think you can necessarily walk in the first day and start demanding to have flexible hours and do this and that. But you build up the trust, you build up the record of your performance that you're able to more and more sort of build out that work-life balance over time. I have five kids, so.

Kelly:

Yeah, you need a little bit of that life-work balance.

Doug:

It's a survival mechanism here.

Rex:

What are some of the most exciting moments you've had during your career, Doug?

Doug:

Well, I previously mentioned that I detailed down at NOAA headquarters for two years. That was a rollercoaster whirlwind ride. My first day on the job down in DC was the earthquake and the tsunami and the nuclear disaster there at Fukushima in Japan, in early March of 2011. I'm going to remember 2011 for a long time. But for those who may not have that memory of 2011, 2011, it seems there was a natural disaster every couple of weeks.

Doug:

First it was the tsunami then it was the tornado outbreak, then it was the Joplin tornado, and then there was the Mississippi river flooding. And so you just had this conveyor belt of incredible events. I worked in the NOAA policy office for weather and satellites at the time. What was riding day after day, working with professionals like Dr. Kathy Sullivan was really incredible.

Doug:

My advice to others because it certainly wasn't just handed to me was if you see opportunities, even if it's a little bit risky, and especially if you have the opportunity to staff really good people, it is a leadership opportunity and experience. It's a time that really had incredible growth for me. I really expanded from just sort of a meteorologist and S&T [science and technology] guy to a science communicator to looking at policy, looking at solutions beyond just the daily forecast. It really sort of set up the remaining 15-20 years of career.

Kelly:

So now that you're pretty established in your career, is there anything you wish you had done differently, looking back?

Doug:

Well, hindsight is always 2020, but I actually wish even in my undergraduate studies, I would have probably been better off going down a communications track, not necessarily becoming a TV meteorologist, but the ability to speak and communicate and write effectively with weather, weather forecasting, climate is so valuable, is so needed that I wish I actually had a degree in communications. I would have done that over again.

Doug:

And I think what it points to again is that, you gotta look for an angle when you're looking at your career. Not everybody is going to want to go down a communications path or a social science path along with their interest in meteorology. But it could be finance or you may have interest in insurance, something

that has strong connections to the weather. You could work on Wall Street and be a meteorologist and be highly employable.

Kelly:

Yeah. Maybe a minor in communication might be a good idea.

Doug:

Yeah. No, absolutely. It's not sexy, but being a strong speaker and writer, it's so incredibly valuable.

Rex:

So if you were hiring someone in your department, what would you look for on a resume or in a cover letter? Would you find a way to see that they're a communicator in that context? Would you try to suss that out of those materials?

Doug:

I think the number one thing I would look for is, does their resume come across as — and this may sound a little weird — but is it comfortable or are they pushing themselves to be uncomfortable? What I'm most proud of when I talk about my career is that I went into a master's program, not having taken a single course in that discipline. And for anyone who has done it, hopefully they're nodding their head and they're saying, "Yeah, it was scary." Failure wasn't an option but boy, you thought about failure every single day and the disadvantages that you had.

Doug:

But I went into that program, one, motivated, but two, I was able to rely on my other experiences. They're not completely unrelated. The scientific method works for all disciplines. I would look for a resume that's like, "Wow. I wonder. That's interesting that they went down this path versus the most traditional path." Right?

Rex:

Right.

Kelly:

Right.

Doug:

Looking for that angle.

Kelly:

Doug, we always ask our guests one last fun question at the end of each podcast. I'd like to ask, what is your all-time favorite book?

Doug:

Oh my goodness. I will admit, I am not the biggest reader at least of fiction or non-fiction outside of work. However, I would say my answer to that question is the book *Winter Storms*, and it was written by

my sister and she is a New York Times bestseller. She has twenty-four novels, but what makes *Winter Storms* so much fun to read was one, my name and my character is in the book.

Kelly:

Oh, cool.

Doug:

Right. Right. And two, there's about a page or two that I actually wrote because it's actually part of four books. But it's a story about a family living on Nantucket and all of her novels are about Nantucket, take place on Nantucket, they're fiction. They're kind of beach reads. But there was a big winter storm, obviously from the title of the book. But she reached out to me and said, "Okay, can you explain what a nor'easter is to the general public?"

Doug:

That was the grand challenge. I could have thrown all the technical jargon at her, but she wasn't wanting that. She wanted it explained accurately but yet with common plain English and something that her readers wouldn't get lost on, but actually would be able to visualize what was going in to the book.

Rex:

Wow. That's incredible. So did you fit in any preparedness messages into the book?

Doug:

My character, I was the TV meteorologist for New York City. Gosh, I could talk forever on this and I was a hipster. So I was dressed in funky clothing on air and everything. It was really creative the way she pulled the character together. I'm not a hipster by the way. But it was really fun and I was able to — basically, I was sounding the alarm and people were poo-pooing it, which maybe is too typical.

Kelly:

Yeah. Maybe there'll be a movie in the works and you can star.

Doug:

That's right.

Kelly:

You can be the star.

Doug:

Oh, Kelly, keep going. Keep going.

Rex:

That's incredible, Doug. So what's your sister's name? If we wanted to look up the book ourselves. *Winter Storms* by...

Doug:

By Elin Hilderbrand, E-L-I-N. She goes by her maiden name. Yeah, no, she just had a book out last week. Well, lately she's been writing two books a year, so she's very busy, but they're great reads. It's fun to be walking on the beach and you see somebody. Actually I was flying on an airplane back when we could fly on airplanes in the fall, I looked over next to me and the woman was reading one of my sister's past books. It's cute to be able to insert yourself and say, "Is there any message you'd like me to tell the author?"

Kelly:

That's awesome.

Rex:

We'll see if your character makes a return appearance in one of her future books.

Doug:

Yes, absolutely.

Rex:

Thank you so much for joining us, Doug, and for sharing your work experiences with us.

Doug:

Thank you. It's put a big smile.

Rex:

Well, that's our show for today. Please join us next time, rain or shine.