Transcript of "Melissa Huffman, Warning Coordination Meteorologist at the National Weather Service in Corpus Christi, Texas"

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 gues, Melissa Huffman, a Warning Coordination Meteorologist at the National Weather Service in Corpus Christi, Texas. Welcome, Melissa. Thanks so much for joining us.

Melissa Huffman:

Hi. Thank y'all for having me.

Kelly:

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

Melissa:

Of course. The big thing that sparked my interest in meteorology was actually my dad. He survived the Wichita Falls tornado in April of 1979, and while there may have been a little bit of embellishment in his recollection of what happened, it's always been a really fascinating storm for me. I think we learned a lot as a meteorologist from the Terrible Tuesday tornado. That always left me with a lot of questions on how can storms like this happen? What can we do to keep people from falling victim to them again? Those questions really drove me as I was going through high school and really trying to evaluate what I was going to do following graduation, so that led me to attending university at the University of Nebraska in Lincoln. I know a lot of people think about the plains for tornadoes, and so that's where I was really looking to go to get more of that tornado experience.

Melissa:

While I was actually at the University of Nebraska, I was able to get an internship with the National Weather Service Office in Fort Worth. I grew up in Dallas, went to school in Nebraska, came back to Dallas to do this internship, and got exposure to emergency management, and from this internship, realized that there's a whole different world of disasters out there beyond weather. That actually led me to going to grad school to get a Master's of Public Administration and Emergency Management at the University of North Texas, so I started out with tornadoes and then opened up with this bigger, broader disaster view.

Rex:

Finishing your master's degree, what was your first job in the field and how did that take you to your current warning coordination meteorologist position where you are now?

Melissa:

My first job was as an entry-level meteorologist with the Midland/Odessa National Weather Service office. I spent about a year-and-a-half in Midland, learned a lot. Got to experience dry lines, severe weather outbreaks, so really got to enjoy that severe weather perspective that West Texas provides. Then following that time in Midland, I was promoted to be a forecaster in the Houston/Galveston National Weather Service office. Spent about four years in Houston and worked some of the bigger flood events that affected the Houston Metro, so the Memorial Day 2015 flood event, Tax Day 2016, and the last big flood event that I worked in Houston was actually Hurricane Harvey in 2017.

Melissa:

Following my time in Houston, I was promoted to be a lead forecaster in the Austin/San Antonio office, and continued my streak of working flooding events. We actually had a major flood on the Lana River right after I got there. Then I was in Austin/San Antonio for about a year-and-a-half and recently moved to Corpus, so I've only been in Corpus since February, but I was promoted to the warning coordination meteorologist here, so I'm back on the coast and getting to experience all things tropical.

Rex:

What was your experience of Harvey like? Can you tell us a little bit more about what it was like to be watching the weather from an operator's perspective?

Melissa:

Harvey was an incredibly intense event to work. You have not only the days leading up to the system where you're doing everything that you can to message anticipated hazards from Harvey, but you're also trying to communicate how long hazards will last with the system. Once Harvey began to move into the coast, recognizing that Harvey had a really unique path, so Harvey made landfall near Rockport, Texas moved inland, and then actually came back out into the Gulf and wound its way up the upper Texas coast, which is what produced all the flooding impacts within Houston.

Melissa:

Not only are you posturing your region to get ready for this long-duration event, but you're also stuck at work, so we were all at some point sheltering in the office, sleeping in the office, which, by the way, is a really great way to get to know your coworkers. You're not just working this event, but you're living it. That was something that I don't think I had ever really experienced up until that point of being a meteorologist is you're working this disaster and then you're living it as well. There's no escape and so it's this all-encompassing event, but it was something that I think really unified our office and really gave us a greater connection to the community that we served. But it was certainly a very emotionally taxing event for, I think, all of us working in the office at that time.

Kelly:

For our listeners who are interested in working for the National Weather Service, I have a couple of questions. First question is: What level of education is required if somebody wanted to work as a warning coordination meteorologist? The second question is: For those who are out of school, if you could give us some advice on how early-career professionals and students who are just graduating can apply for a job at the National Weather Service

Melissa:

To be a meteorologist in the National Weather Service, whether it's entry-level or a warning coordination meteorologist like I am, all you have to have is that bachelor's in meteorology or the equivalent coursework. If you have any questions or concerns about what that coursework looks like, if you go to usajobs.gov on every posting, the educational requirement is listed, so you're able to look at that. You can compare it back to your transcript to see if you meet the educational requirement. Some of the big classes that stand out would be having differential equations, dynamic meteorology, physical meteorology, as well as a healthy round of remote sensing classes. But again, all of that information is available on usajobs.gov. It's listed out for every position.

Melissa:

Then in terms of what I would tell students is to be persistent and not give up. I talked about how my first job was with the National Weather Service office in Midland/Odessa, but that was not my first job out of school. I actually took a hard left turn. It's taken me months to get into the weather service. I think I was bidding for close to a year before I actually got in. I was working as a code enforcement officer and writing tickets for people not mowing their lawns, so I was doing something that was completely not weather-related, but you really have to be persistent, especially if you're trying to get into federal service. That's my biggest thing to tell students: Don't get discouraged, keep applying, keep putting yourself out there.

Rex:

What do you see the job market like at large for careers in your field?

Melissa:

Keep in mind that the way that National Weather Service offices are staffed are fairly static, so you'll typically have between 20 and 25 people on station. Now, not all of those will be meteorologists. Some of it will be your electronic staff and other administrative support staff, so the office staffing structure is fairly static, but what we're seeing is as the baby boomers near retirement age, we are seeing a lot of retirements and that has a trickle-down effect because it results in people within the agency being promoted up, which is then opening up several entry-level positions, so I think as we continue to see baby boomers retire, there's going to be a lot of movement within the National Weather Service, which is great for folks looking to get in, so I would expect within the next five years, there'll be these continued waves of new hires moving into the agency.

Rex:

Did other classmates from your emergency management program go in other directions besides the NWS that you thought were interesting. Did you consider other places to go with your MPA?

Melissa:

We were a really scattershot kind of group when it comes to what people are doing now from grad school, so I went back to the meteorology route that I had initially set out on, but I have a colleague who works for Delaware's Emergency Management Agency. I have another friend who is an emergency manager in North Dakota. I also have another friend who works for the Oklahoma County Sheriff's office, so we all took these very different routes, recognizing that the MPA, the emergency management background really gave us a broader understanding of local government. That's something that I use every day, because even though the weather service is a federal agency, we operate primarily on the local level. It's those cities and counties who we're really getting those really close relationships with when it comes to communicating weather information.

Rex:

Were there other meteorologists in your program as well?

Melissa:

I was the only meteorologist in my year, but there was another meteorologist who came up about two years behind me. I think we're starting to see more meteorologists go into these MPA and emergency management programs.

Rex:

Interesting.

Kelly:

Could you walk us through a typical day on the job so our listeners can hear about what it's like to be a warning coordination meteorologist?

Melissa:

Well, my simplest answer to that is that there is no typical day on the job. I guess one of the perfect examples is last week, all eyes on the Gulf, keeping an eye on Tropical Storm Cristobal. That's going to drive a lot of what I do in a day is if there's some kind of active system we're monitoring, some kind of weather event that could pose impacts to the region. We were providing regular weather briefings on Cristobal to our partners. While Cristobal was expected to move into the Central Louisiana coast, there's still peripheral impacts that we were going to see in South Texas, so we're educating our partners about that.

Melissa:

But while we're doing that, we actually had a hazardous materials event occur in Corpus Christi, so then you have to shift gears a little bit from tropical to an active hazardous materials event where you're attempting to understand what's been released and then how the weather is going to affect either behavior of that hazardous material and keep those partners informed of what's going on, so you're shifting from this big Gulf of Mexico view, right back down to a really small city view while still trying to make sure that the office is, putting out the products that need to be put out, all the routine forecast and information still has to be handled appropriately, and adapting to any kind of partner need that comes up.

Melissa:

If an emergency manager needed a specialized briefing for their community outside of that hazardous materials event or Cristobal, then it's jumping to that, so you can anticipate having a big weather challenge for the day, but your day can go in so many different directions that there's not a typical one. If you like to adapt, if you like things constantly changing, this is the perfect job for someone who likes that kind of excitement.

Kelly:

You mentioned that you had partners. Who would be considered a National Weather Service partner?

Melissa:

National Weather Service partners can include anyone from local emergency management to local government officials, broadcast meteorologists, storm spotters. When we're talking about partners, it's the people who we have relationships with in our local community who help us communicate hazardous weather information.

Rex:

You talked about if you like adaptation this might be the job for you. Is that what you like most about your job? Is there something else you'd like to bring up that you find particularly enjoyable or valuable or affirming?

Melissa:

I love the adaptability because it keeps you on your toes, but I think something that I love even more than that is seeing how people use the weather information that gets provided to them. When I was in Houston, I was really fortunate enough to be deployed to several high-impact weather events, so support that had been spun up for these events. One of them was actually a ship collision within the Houston ship channel, so I had spent all day on the forecast desk, their ship collision occurred, and then I got to deploy to be with the Coast Guard to provide them with real-time weather information so that they could position people and get resources and do what they needed to do to stabilize that ship collision event.

Melissa:

I think that's one of the most exciting things to me about being a meteorologist is we're translating all of these really complicated facets of the environment so that someone can do something with that information, whether it's take protective action, keep other people safe. Whatever their intent is, it's just really neat to be that conduit to help those decisions be made. I think that's probably, in addition to the adaptability, one of my favorite parts of the job.

Kelly:

What is the most challenging thing about your job?

Melissa:

Well, we talked about this a little bit with Harvey is you can go into these really long-duration events and you can see some pretty dramatic things that happen within the course of these disasters and that can be a tough thing to process. What you're seeing, what's happening to your community, that is really taxing.

Melissa:

Another thing, and I don't think it's any secret that the Weather Service has rotating shifts. That can be a huge challenge as well. Now, as a warning coordination, meteorologist I'm mostly working day shifts. My schedule pretty much mirrors what my partners are working, so what those local emergency managers and local officials are doing, but most National Weather Service meteorologist are working at some point around the clock, so we're open 24 hours a day, seven days a week. That means not just day shifts, but evening shifts and overnight shifts, and that can be a real challenge because sometimes you miss out on some things that happen, birthday parties, things that your friends are doing that you want to be a part of, and so that can be a challenge as well is the schedule does not always align with what your social network may be doing.

Rex:

What's the solution to, or how do you ...? Acknowledging that there is a work-life balance that can sometimes be unbalanced, what do you tell yourself, or what is your solution to make that still work for you?

Melissa:

One of the big things, this has forced me to become a calendar person, so making sure I know not only what my schedule is, but in any activity that I'm involved in. I have a few community service groups that I'm a part of. I am that person who goes to them and says, "Look, I need a schedule. I need to know when you're anticipating meetings to be or other events to make sure that I can attend as much of that as possible, be as present as possible," and so it really does put more onus back on you as a forecaster to make sure that you are communicating what your needs are, as well as managing your schedule as well as you can.

Melissa:

Then there's some things, too, where everybody's body handles sleep slightly different, so you also have to factor in that there's going to be some midnight shifts that you work where you may not want to do anything after that. Even if you've scheduled things in advance and you know what you want to be a part of, you just may not be feeling it, and so I think that that would be something that is really important to remind people as you really have to listen to your body, especially when you're being put in these different kinds of shift work situations. But for me, it was definitely getting a calendar, making sure I knew not only what my schedule was, but what other obligations were outside of that and then really communicating what I was working and setting realistic expectations with my friends and my family so that it wasn't creating any friction, that they didn't feel like that they were being left in the dark about what I was doing.

Rex:

I was also curious, you had talked about spending nights or sleeping at the National Weather Service during Harvey. Was that air mattresses on the floors or is there more of a permanent overnight accommodation that these offices have because they understand that situations might need all staff to remain on hand the way a hospital might?

Melissa:

It really depends which office. The Houston/Galveston office is actually co-located with the Galveston County Emergency Management office and there are actual bunks located within that building, but because of the scope of Harvey that was actually being allocated for other people who were coming in to help support the event, so we did sleep on cots during Harvey. I deployed to the Melbourne office for Hurricane Dorian in August and I slept on an air mattress there. The folks in the Corpus Christi office here who worked Harvey were also sleeping on air mattresses. It really depends on each office's situation, but yeah, sleeping on the floor, sleeping on an air mattress is something that will probably happen during a tropical event.

Kelly:

Wow. Well, the community certainly appreciates what you all do at the National Weather Service to keep us safe. It's not easy, that's for sure. You mentioned lots of hurricanes. Are one of those events one of the most exciting thing that happened to you during your career, or is there something else?

Melissa:

I think I've had exciting moments in each of the offices that I've been in that have really defined that office for me. In terms of the most exciting events, I think that I probably worked the most high-visibility events when I was in Houston. I got to provide forecast support for the city of Houston during the Super Bowl. Working Harvey was certainly one of them.

Melissa:

But I also think that in Midland, too, I got to work some events that we saw record flooding in West Texas, which is the desert, and that was pretty remarkable as well, so I think in terms of exciting, for me, the events that are super unusual for the region that I'm working in, because what are the odds, one, that you're going to see that event? And two, it really forces you to adapt to a quick-changing situation. That's, I guess, in the highest-level view, the things that I find the most exciting are the ones that force you to adapt and change to the situation. I think that's really how you test a good operational meteorologist is how well they can shift those gears to ensure that the service is being provided, regardless of what's happening.

Rex:

We sometimes ask our guests if there's anything they wish they had done differently in their career. I think another question might be: Is there anything you'd be interested in doing in the future? Are there any other positions, or if it's not that you wish you had done it differently, necessarily, but any other fields of meteorology that really catch your eye for whatever reason?

Melissa:

I think based on where I've been so far, Texas is an oil-and-gas state, and one of the things that has been a recurring event that I've worked in every single office I've been in has been a hazardous materials incident, and so I think that's that I wish I would have done more of coming up through school is having more of that chemistry background and really making sure that I have a good foundation in some of the materials that we actually deal with at the National Weather Service. I think that would be one thing that I would've hoped to have done more of, but it's certainly something that I'm doing now and getting as involved as possible in any kind of hazmat training or exercise that comes my way.

Kelly:

You had mentioned that and I was surprised to hear about the hazards. I wouldn't even have thought it would be affected by weather, but it certainly would be because of how things can be airborne and affect people's breathing.

Melissa:

Absolutely. It's those offshoots of meteorology that you don't really think about as being directly weather-related that I think make some of the strongest meteorologists, so having that chemistry background. A big thing now is geographic information systems, so can you help map out parts of your area, whether it's flood inundation mapping, or where critical infrastructure is? That's also another area that I think a lot of students would really benefit themselves by getting more experience in.

Kelly:

What professional development opportunities do you pursue to keep current? Do you attend conferences, present papers?

Melissa:

I do. I actually was at the AMS conference in Boston, but one of the biggest things for me that has helped ease the professional development burden is getting involved in professional groups, so I'm involved in the American Meteorological Society, specifically within the Emergency Management Committee. I'm also a member of the International Association of Emergency Managers, so really seeking out those professional organizations that are just these natural collecting areas for the latest research, trends in science, so that I make sure that I have that direct exposure because I think one of the traps that people fall into is you think that you've earned your degree, you've graduated school, and that's really just the start of your education as a meteorologist because you're continuing to learn from the world around you.

Rex:

I was going to ask if you had any advice for students or early career professionals looking to establish careers in your field. It looks like you've just given it in a way, but do you have any other last words for people in that cohort?

Melissa:

Beyond being persistent, beyond seeking out those opportunities to stay engaged with the professionals in your field, I think I would probably have to say that it's really important to just stay engaged with whatever offshoot of meteorology you think you want to be a part of. This would be primarily in the form of getting internships or volunteer opportunities. If you think broadcast meteorology is for you, connect with your local station, talk to your broadcast meteorologists, see if they'd let you come out and shadow. If you think the National Weather Service is the way you want to go, communicate with that office. A lot of us have summer volunteer programs that we would love to get students involved in. Don't wait until you are about to walk across that stage before you decide to evaluate where you want to go within meteorology.

Melissa:

I thought I was going to chase tornadoes and be on TV and I'm now a warning coordination meteorologist on the coast talking hurricanes. Your life is going to go in so many different directions, but you need to be evaluating where your interests are within the different offshoots of this field because meteorology is continuing to expand. It's not just sitting behind a computer, it's doing all sorts of different things, and so make sure you just have exposure to that so you know what you want to do and what's not going to serve you as a career route.

Kelly:

Melissa, we always ask our guests one last fun question at the end of each podcast: What is your favorite food?

Melissa:

My favorite food, hands down, is lasagna. I am not a lasagna connoisseur. It can be the cheap frozen stuff at the grocery store, but there is just something to me about a bunch of baked pasta and cheese and meat and sauce that just really makes me feel like I'm at home.

Kelly:

Do you also like vegetarian lasagna? Because I know some people love the meat but don't like vegetarian.

Melissa:

As long as it has the cheese in there, I'll eat it. Again, not picky. If it's lasagna, it's good in my book.

Rex:

Well, on that note, thanks so much for joining us, Melissa, and sharing your work experiences with us.

Melissa:

Thank y'all for having me.

Rex:

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