Transcript for "Micki Olson, Risk Communication Researcher at the Emergency and Risk Communication Testing Lab in Albany, NY"

Clear Skies Ahead: Conversations About Careers in Meteorology and Beyond

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Kelly Savoie:

Hello, Clear Skies Ahead listeners. This is Kelly Savoie and I'm hoping you can take a moment of your time to rate and review our show wherever you listen to podcasts. We have produced over 60 episodes, and you can help us reach even more individuals that will benefit from the diverse experiences shared by our guests. Thanks so much for listening, and I hope you enjoy this new episode.

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 Emma Collins 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.

Emma Collins:

We're happy to introduce today's guest, Micki Olson, risk communication researcher at the Emergency and Risk Communication Testing Lab in Albany, New York. Welcome, Micki. Thanks so much for joining us today.

Micki Olson:

Thank you for having me.

Kelly Savoie:

Micki, could you tell us a little bit about what sparked your interest in science and how it influenced your educational path?

Micki Olson:

Yeah, so I didn't always know I wanted to be a scientist in the traditional sense because when I was younger and I heard the word science, I always thought of physical science, so chemistry, biology, physics, and those are actually the classes I liked least in school. So I thought I would never be a scientist, but I've always been fascinated by people and their behavior and why they do the things they do. So this led me in college to take classes in communication and psychology and sociology. So really the broad disciplines that make up the social sciences. And it was at this time when I was an undergrad that I found out that you can be a scientist but also study people. And to me, that was a match made in heaven, and I felt like my course was set that I was going to be a social science researcher.

And so my specialty has changed though throughout the years and that's really influenced my educational path. So I got my master's in health communication, so there I was researching how doctors and public health agencies, how they use communication to help improve population-level health outcomes. And I always knew that I wanted to do research in some capacity. So then I decided to go on to get my PhD in communication from the University of Kentucky. And it was at this time that I was becoming more interested in how do you convince someone to change their behavior now when they need to act immediately versus having someone change their behavior in response to consequences that

may not happen decades from now. So I'm thinking about smoking for example. You have to convince someone to quit smoking now because they might get cancer years or even decades later.

So I really shifted my research to focus on how people make decisions in these really high-stakes, high-stress imminent situations because I found it was really interesting. And so when someone needs to act immediately to protect themselves from some type of hazard, how communication, especially our messaging, can really shape those responses. And a bulk of my work is to understand how people interpret and respond to weather warnings and how those should be designed. How we should talk to people about weather and warn them to take some type of immediate action. And so, for me, social science is really exciting scientifically because human behavior is really complex. And so people are hard to predict and one of the goals of science is to predict and people are really hard to predict. So our research is rarely straightforward and that keeps things really interesting for my work.

Emma Collins:

And were there any particular opportunities that you pursued that you knew would be beneficial to securing a job once you graduated?

Micki Olson:

Yeah, there were actually because since I knew I wanted to do research in some capacity because, again, I was always trying to answer those like why questions or how questions, and I knew that that's research. I was very intentional about pursuing opportunities that would build my research skills specifically. And then also trying to expand my professional network. So probably the most beneficial one in my career was being a research assistant during graduate school. So during my master's and my PhD and why this was really valuable was I got to work on projects that allowed me to gain hands-on experience in different research methods. So I got to help design surveys and conduct interviews and even analyze social media data. And so this really solidified my interest and made me feel like I was on the right path of what I was pursuing with social science and research.

And what this also allowed me to do was develop a strong publication record before I graduated, which is really needed and key when you go on to research-focused roles. And so for me, it didn't have to be, and for anyone really, it doesn't have to be paid or funded research assistance. I volunteered my first couple of years in grad school as I was teaching before I transitioned to being a full-time RA. And then the second thing that was probably most beneficial was presenting at conferences because this is also something that researchers do and it also helped connect me to other researchers and also practitioners, especially at the AMS. And why I like conference presentations so much is that good speakers can make their technical science accessible and exciting for everyone. So presenting at conferences really helps you hone that skill and communicate your science effectively to different audiences. And also conferences give you an opportunity to network, which not only expanded my professional circle but also has led to some wonderful research collaborations as well.

Kelly Savoie:

When you publish research while you're still in school, do you do it alongside a professor that you're doing research with? Is it like a co-authored paper?

Micki Olson:

Yeah, it really depends on... But if you're, for example, working with your professor or your advisor on their project, usually you would help write up the research publications. But sometimes, to give you experience, some advisors and mentors will want you to take the lead on a publication and be first

author on it and really learn that skill. So research publications are important, but especially if you're trying to move on to academic positions, having those first-author publications that you have led are really important as well as those ones where you are a co-author. So it really depends on the relationship that you have with your advisor and who decides to lead and who doesn't.

Kelly Savoie:

And you said you had originally done your education in health, communication and health. So what was it in particular that made you switch more towards weather? And how did you find out about AMS? Was that just through professors or through others at your university?

Micki Olson:

Yeah. So I started becoming interested in weather communication especially because it changed the context a bit. It changed it from, again, I'm trying to convince someone to do something when the consequences are far away versus, I am trying to convince someone to protect themselves because the tornado is down the street. And so that's when I really started becoming interested in weather especially and natural hazards and how we should talk about them because the time is so short.

And here messaging is incredibly important for the public because you can either help them make those protective action decisions or you can actually hinder them from doing it. Because we know when it comes to warnings in particular that the way they're written, if they are incomplete in any way, people's first inclination is to actually look for information. But we know that lead times can be incredibly short, and we don't always want to have people do that. We'd rather have them immediately protect themselves. So I've been really interested in how our communication can help people make those really quick decisions and how communication when done somewhat poorly can actually prevent people from making those decisions.

Kelly Savoie:

And so once you graduated, what was your first job in the field and how do you end up where you are today? Or is the position you're in now your first job?

Micki Olson:

Oh, no, I've been around for a little bit longer. I appreciate that though. So my first job in the weather field was actually I was a social science contractor in the weather program office at NOAA. And I had finished my PhD coursework and I was feeling anxious about what I would do when I graduated, what opportunities would be available. I think most students face this at some point. And so I saw this social science role at NOAA, and it wasn't a research position like I was envisioning, but it was still really interesting. And the job was still interesting in that I could get to help NOAA think about how to strategically integrate social science in the agency.

And so I ended up applying and then I got the job and then me and my boyfriend at the time, my now husband, we moved to DC for this new opportunity. And it was amazing. I loved working at NOAA and the people there and especially in my office at the Weather Program Office. And what has been really great to see is even though I'm not at NOAA anymore, the amount of social science positions has expanded exponentially in the agency. So when I started there almost eight years ago, there was only, it felt like, a handful of us social scientists sprinkled in different line offices across the agency. There wasn't any really strategy and there wasn't enough of us it felt like. And now just in the weather service alone, there's a big group. In NOAA Research line office, there's another large contingency. So it's been really great seeing that build, NOAA building their capacity there.

But so I was there for about three years, and I was missing doing the hands-on research. So then when my PhD advisor and mentor reached out and asked if I wanted to join her and her research lab, I took that opportunity. So now I do research at the University at Albany in the Emergency and Risk Communication Testing Lab. And so we have multiple research projects where we study emergency alerting and warning message design. And I've also transitioned into a role that has allowed me to lead these research projects by securing funding. And so not just contributing to them but leading them. And I get to work with teams that help and think of creative ways to apply our research findings in practical ways, which is what I love to do as well.

Emma Collins:

And you mentioned hands-on research, and with your work, what does that look like in communications?

Micki Olson:

So what I mean by hands-on, so there's two components. One is me actually doing the research. But I consider myself an applied social scientist, so I try to conduct my research in a way that it will have real-world implications and findings that forecasters can use, that emergency managers can use, that even some of my research that public health they can use when there's public health emergencies. So applied in the sense that practitioners can easily use the findings. And I create it in a way that it's not just moving the theory in social science forward but actually can be used by those practitioners who actually talk to the public and communicate risk every day.

For example, I have a project funded by NOAA that's looking at how do we communicate about heat. And so one of the things I'm doing is talking to people about what do they understand about heat, what they don't understand. And then in talking to forecasters, looking at here's what people understand and here's what they do. So we could use this type of messaging versus this type of messaging to help people better understand heat risk. So things like that.

Emma Collins:

Could you walk us through a typical day on the job as a risk communication researcher?

Micki Olson:

Yeah. So I'm in this interesting space of, I'm a full-time researcher, but I'm not faculty with teaching or service responsibilities. So my day is going to look different than other people at the university. So I have a little bit more flexibility with my time. So my day is really broken up into doing research and then collaborating with my teams. So in the morning, I try to do focused, cognitively demanding tasks that a researcher needs to do like analyzing data, writing reports, writing publications, things like that. But then after a few hours, I'm usually pretty exhausted mentally because you can only do that for so long.

So then I switch gears in the afternoon, and I try and use the afternoons for collaboration and engagement and outreach, just basically things that involve other people. This is usually when I meet with my research team, and we discuss what are our ongoing studies? Are there issues? Are we getting results in? What do they mean? Going over data and analysis that we're working on. If I have an upcoming presentation, this is when I'll work on my slides because I try to do a lot of outreach and education and public speaking at various workshops and conferences and government agencies to share my expertise and research findings with practitioners again.

So, for example, I talked to the FDA this morning to an office that regulates orthopedic devices. And it might seem like we have nothing in common, but they still need to communicate risks to the public

about these devices. So we talked about what might that look like? How should we communicate risk in a way that's easy for people to understand? So I really like doing that and talking with practitioners, again, forecasters, emergency managers too, about what our findings means and how they can use them in their jobs. And research also comes with a surprising amount of administrative work. So making sure that projects are on task that I'm coordinating with our partners, troubleshooting issues, and also working with my research assistants here, checking on their projects, answering their questions. I really like that component of my job of working with our research assistants.

Kelly Savoie:

I always wondered when someone is conducting research, if you give yourself a timeline... Because, of course, research could continue for years and years and years, but do you give yourself a bit of a timeline where we want to conduct this research, and we want to have some type of results by a certain date?

Micki Olson:

Yeah. It really does depend because all of our work is funded in some capacity. So we have a timeline that's built in from the sponsor, so whether that's NOAA or FEMA or someone else, we have to produce these deliverables or these outcomes by this date. So oftentimes that's already baked in in our research agreements, but research is also part... So there's the research part, but then it's also part project management too. Establishing those timelines, working backwards, figuring out how long this is going to take when I need to get feedback. So there is this project management component with a lot of research we conduct. But in terms of deadlines, yeah, most of that is driven by the funder, so we don't really have a lot of open-ended projects.

Kelly Savoie:

So on average, how much time do you usually get to do a research project?

Micki Olson:

It depends again. So typical NOAA grants are typically two years. We have different contracts, could be up to five years. It really depends, but you work on different tasks each year and then until the timeline ends. So most of our projects are at least a year, if not more.

Kelly Savoie:

And what are some of the biggest challenges you've faced during your career? I'm sure that everyone has a couple.

Micki Olson:

Yeah. So when I was thinking about this question, I'm like, I could talk about the problems with integrating social science into a primary physical science agency like NOAA. But I also, when I was reflecting on this, I was like, I think the challenge I want to speak to are ones that women in particular face in the workplace that often go unnoticed. And that early in my career, one of the biggest challenges I had was being taken seriously, especially working with more senior people because I was, at that time, a younger woman and I couldn't count the number of times where I was by far the youngest person in the room or the only woman. And then having to prove like I belonged there because you are the expert in a particular area and how it can shake your confidence, and for a while, I wasn't very confident in my abilities.

And in fields like emergency management or meteorology, there could also be a degree of implicit bias that we have where we often expect experts and leaders to look a certain way. Usually, being older, and white, and male. And I've had to learn how to speak with authority and establish my expertise because I'm not that. And there's this tricky double standard that I've had to navigate and has been particularly challenging that, for a woman, if you're too assertive, you're seen as difficult to work with, but if you're too soft-spoken, you're seen as inexperienced or not capable. And having to navigate that and advocate for myself all while trying to avoid these classic labels that often get attached to women in the workplace, it was a challenge for sure. And here I think it's really important to have strong mentors and people you can watch how they interact with other people and how they navigate this and people to learn from. So here, I'll shout out two of my mentors, Jeannette Sutton, and Gina Eosco for showing me how this can be done with grace.

But there's also been a challenge that is more recent, but it happens is career stability and funding. So social science research is often grant-funded, meaning there's always a degree of uncertainty that when funding cycles end, you have to secure the next project and writing proposals and justifying why your research matters and competing for limited resources, it can be stressful. But as I mentioned, there's much more of these permanent positions now, which is really great to see and give people some of that stability while moving the research forward.

Emma Collins:

That's awesome. Did you have any key moments when you were learning from your mentors that stand out, maybe that you try to bring forward when you're working with your research assistants?

Micki Olson:

Yeah. So I think... There's not one that sticks out but just seeing how they interact with different people and how they navigate these challenges has been really great at showing me there are times when you want to be assertive. There are times when you might want to take a step back. Teaching you really situationally what is the best way to get your message across and be seen as a leader and authoritative person in your role. How to become visible and how to... At some point also, this is something that I've experienced, and I don't want to say that these are necessarily what my mentors have done is caring a little bit less about what people might think and just being like, "Hey, I'm the expert here. I know this and I'm going to own it. And at some point, that may not be everyone's cup of tea, but that's also okay too. You may not be everyone's cup of tea and that's also partly their problem, not yours."

So I think we don't talk enough about these interpersonal relationship navigation that we have to do in our workplace and in the office. And so how challenging that can be for women to navigate. I think we're getting better in terms of seeing women in these leadership roles and things, but it's still really hard to navigate to this day.

Kelly Savoie:

Yeah, I can see that. And you also don't want to lose your own personality either. And you have to factor that in somehow so that you don't seem too much like a robot.

Micki Olson:

Yeah. And I feel like as I've progressed, I've gotten more comfortable with that. Is letting my personality show through being a little bit more sure of myself and what I'm saying. But when I was first starting out, I felt, again, I'm really shaky and it's hard. So I really empathize with new people who are just graduating and trying to navigate how does this work because it is really hard. But I've always said, as you get older,

you start caring a little bit less what people think. You should obviously care about other people, but if their... I've been like, "If you don't like certain things then that's okay. I can move on."

Emma Collins:

You're also a member of the AMS Board of Early Career Professionals. How did you benefit from that experience?

Micki Olson:

Oh, that was an incredibly valuable experience because one of the biggest benefits there was connecting me with other young professionals at the AMS, especially those outside of my immediate research area because I didn't attend schools with meteorology programs. So I often felt like an outsider at the AMS meetings a little bit except when I was around other social scientists. And being a part of that group, it really helps me build relationships across different disciplines and connect with the broader AMS community, which has led to really nice collaborations and a stronger professional network. So there it was a really nice way to not only grow my career, but I also find it incredibly rewarding to support and uplift other early-career professionals because we're all, at the end of the day, trying to navigate similar challenges. So it was a nice way to support each other too.

Kelly Savoie:

And you mentioned something previously about heat and working and doing some research with that. And you said that not everyone understands the heat index on a summer day, which can lead to medical issues. So how do you simplify this language to keep people safe?

Micki Olson:

Yeah. So like I mentioned, I have a project funded by NOAA that looks at how the public interprets and makes sense of heat information, particularly from the weather service because what we have observed that happens is that often experts communicate in a way that's full of jargon. So jargon is that really specialized language that experts use to talk to one another. So technical terms that they agree what it means, and they can easily talk to one another quickly and precisely because they have the same education, the same training like they're both forecasters, for example. So I guess terms in the AMS glossary are jargon and I also argue that heat index is jargon because it is a technical term used by experts, but then when you go outside of that group, it may not be as easily understood what that means.

And why this is important is because messages that contain jargon, they're really difficult for people who aren't experts to understand. They're difficult to process and this is really problematic for messages intended to help people protect themselves. So with warnings especially because we know that understanding the message is one of the first steps you need to, I guess accomplish before you make a decision. So for example, before I even assess am I at risk? Do I need to do something about it? I need to understand what you're trying to tell me, right? What the situation is. And so here it's important to simplify it to plain language, but how do you do this? This is the main question.

So importantly, what you can do is you first talk to people and see what do they understand? What is confusing? What language might they prefer instead? What do they naturally use in their conversations? And this helps identify the biggest barriers to comprehension. So we've done focus groups in this area, and we ask, "What does heat index mean to you?" And they say, a lot of people they're familiar with it's how hot it really feels outside. So rather than using the jargon of heat index, which is how hot it feels when relative humidity is with air temperature, you could instead say, "Well, it might be 90 degrees

outside, but with the humidity, it's going to feel like 105. And also that means your body's going to have to work harder to stay cool."

And what I often talk about here, and I also talked to the FDA about this this morning when I mentioned that presentation, that's why it's on my mind. I really personally don't believe in educating the public as the primary solution here. So for example, I don't believe that, well, if we just tell them what heat index means, it'll be okay because I believe that information should be clear and accessible from the start. If people don't understand a message with jargon, that's really not their fault. It means we need to rewrite it in a way that makes sense to them because I feel strongly that we shouldn't put the burden of understanding on those who get the messaging. It really undermines the credibility of the person sending the message. And so that's why it's so important to speak using the same language.

Emma Collins:

Now that you have been working in the field, is there anything you wish you had done differently along the way?

Micki Olson:

Yes. No large, large regrets, fortunately, but reflecting on this, I wish I would have taken more of a real break between my graduate programs. So for me, I went straight through from one degree to the next because I thought that it seemed like the most efficient path, which I guess it was. But it didn't really give me a chance to reflect on, is this what I really want? So doing that little bit of soul-searching and introspection. It also could have helped me gain experience outside of academia. So a break would have given me more time to gain different types of work experience outside of the university, explore different career paths, maybe avoid some burnout, and reset before diving into more research.

And this is what I tell students that are like, "Well, I think I want to get a PhD," is I often feel like I just jumped into my PhD because that was the next logical step after my master's. But it's actually a really huge undertaking in terms of time and money and energy and all that stuff. And I realize now that if I took time between degrees, that wasn't me taking a step backwards, but it was a chance to actually build clarity for what I wanted to do.

Kelly Savoie:

Well, that's a good segue to our next question because that's a tip, I think. Maybe not go right into a master's, into a PhD, but do you have any other tips for students and job seekers looking to land a job, particularly in communication and risk management? And do you have to have a certain level of education for it?

Micki Olson:

Yeah. So I have a couple ideas. I'm thinking I'll start a little bit broader and then get more specific. And the first one is that I used to think that if I did good work, people would notice and that would be enough. And spoiler, it's not. You also have to be known to the community. And here networking is really key, but I don't see networking as, like, a dirty word because it's not just about collecting contacts or being transactional. I think networking is really about building relationships and collaborating and learning from others. So I tell a lot of students, "Just put yourself out there and do things like networking. Even if it's scary, the scariness is only temporary, and it can be actually really rewarding."

And then for specifically skills, if people are interested in pursuing a risk communication path, is to really sharpen your writing and public speaking skills. Because risk communication, at its heart, is really all about clearly explaining risk information to diverse audiences. So technical experts and policymakers and

the general public. And so strong writing and public speaking is what will set you apart here. Being able to write concisely and clearly, being able to translate complex technical information into easy-to-understand presentations, those are all skills that will really set you apart and set you up for success. So that could include taking courses in technical writing or journalism, especially public speaking. But I'm also a public speaking teacher, so I have to say that.

Kelly Savoie:

And everybody hates it.

Micki Olson:

Yeah, I know.

Kelly Savoie:

Not everyone, but a lot of people.

Micki Olson:

I'm the weird person that actually likes it. But I understand it's people's number one fear more than dying is public speaking. And I totally understand that it can be scary, but I think the more comfortable you get with it, the better you'll be. And so for students, looking for opportunities to present your work at conferences, or even community events, or even if it's a small project. It doesn't have to be this large-scale project, just practicing. And these are skills you can get through training, but also through mentorship or maybe just stepping into leadership roles sooner rather than later. And then what I would encourage students to think about here is like thinking about what will make you stand out when you graduate. I call them your unicorn skills or the skills that make you a unicorn. So what skills do you need to give you this unique combination? Knowledge, experience, abilities, training that you have that others don't have? And those are what you should focus on developing.

Kelly Savoie:

And then I'm assuming that since there's a lot of research involved, that it would be good to have a master's degree at a minimum.

Micki Olson:

Yeah, so I think master's to PhD because a PhD is a research degree. But I think if you want to be like a risk communication practitioner, so someone that actually does the risk communication, not just research it, I think, at that level, you just need a bachelor's. But if you want to go on to actually researching risk communication, then yeah, graduate school would be necessary.

Emma Collins:

Well, Micki, we're so grateful for everything you've told us about your career. However, before you go, we always ask our guests one last fun question at the end of our show. So what is your favorite hobby? And is it public speaking?

Micki Olson:

It is not, although I was in competitive public speaking in high school.

Emma Collins:

What does that look like?

Kelly Savoie:

Debate team? Debate-

Micki Olson:

It was debate team and forensics, so that was... I wasn't an athlete per se. I did competitive public speaking as my sport, that's why I said I'm weird. But my favorite hobby that's not public speaking is I love reading. I think it was getting all those Personal Pan Pizzas from Pizza Hut when I finished a book growing up. I truly think so. But so not to brag, but I typically read over a hundred books a year, and last year I read 95 and it killed me not to get to a hundred. So really, I just need my dog and my Kindle, and I'll be happy.

Kelly Savoie:

Do you have a specific genre or is it everything?

Micki Olson:

I like fantasy and sci-fi. I'm reading the... So if anyone's seen the show The Expanse that's based on a series of books, so me and my husband are watching the show and I'm reading the books alongside it. So that's what I'm reading now.

Kelly Savoie:

Emma, you were like, "Yeah."

Emma Collins:

I'm a massive sci-fi nerd. I have several posters of the solar system and Star Trek paraphernalia all around my room that I am embarrassed to show.

Micki Olson:

No, that's... You would like my husband then. He's a big space nerd too, but yeah, The Expanse and then the books are amazing, so highly recommend.

Emma Collins:

That's a fabulous show.

Kelly Savoie:

Well, thanks so much for joining us, Micki, and sharing your work experience with us.

Micki Olson:

Thank you for having me.

Emma Collins:

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

Kelly Savoie:

Clear Skies Ahead: conversations about Careers in Meteorology and Beyond is a podcast by the American Meteorological Society. Our show is edited by Johnny Lay. Technical direction is provided by Peter Kilalay. Our theme music is composed and performed by Steve Savoy. And the show is hosted by Emma Collins and Kelly Savoie. You can learn more about the show online at www.ametsoc.org/clearskies. And you can contact us at skypodcast@ametsoc.org if you have any feedback or would like to become a future guest.