Transcript of “Jeff Strong, Research Scientist at AIR Worldwide in Boston, Massachusetts”

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're excited to introduce today's guest, Jeff Strong. He is a Research Scientist at AIR Worldwide in Boston, Massachusetts. Welcome, Jeff. Thanks so much for joining us.

Jeff Strong:
Hey all.

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

Jeff:
Sure. As my undergraduate advisor would say, I've sort of been a weather weenie for life. Ever since I was a kid I've been extremely interested in severe weather. My mom has a great story about me tornado-chasing as a toddler. But my parents were both scientists and so that sort of set me on a very early academic path. And I had originally wanted to go to undergrad as a math major, but thankfully I took some classes in an environmental science program at University of Virginia and just sort of took off from there, fell in love with meteorology, climatology, the broader space of environmental science, and one thing led to another. I basically followed the academic path as far as it would go and earned my PhD in 2016.

Kelly:
Congratulations on that.

Jeff:
Thank you.

Rex:
Well, so you went as far as you could go in academia. And did you hold any jobs outside of your main studies during that time, [such as] research assistant positions? And then what did you do after you finished your PhD? What was next?

Jeff:

Sure. So probably the first position sort of related to the broader weather sphere that I held was actually while I was an undergrad. I worked in the climate office at UVA that is in charge of the regional climate records. It was a lot of tidying up old paper records that dated very far back, but the next real position, I didn't have any other positions through grad school besides just research and the associated work of academia. Once I got my PhD, I swiftly transitioned to my first post-doc position in San Diego at the Scripps Institute of Oceanography. That was a yearlong research position where I finished it up and then transitioned to my second post-doc at the Lamont-Doherty Earth Observatory, just outside New York City here, back in the Northeast.

Rex:

What was it like — how did you choose those different locations for your post-docs and what was the application process like for those positions?

Jeff:

Well, as many people in the field probably can guess, it is largely tied to just chasing the money, whoever had funds to support post-docs largely guided my interests. At first, at least. Going to San Diego, I worked in the group of Shang-Ping Xie, who is a noted tropical climatologist primarily, but I came into contact with him through my graduate advisor, Gabriel Vecchi. They had done some work together and on one of Shang-Ping's trips to our lab, we got some time together and I sort of talked to him about, “Hey, is there any possibility that when I graduate in the next year or two, that there might be a post-doc position open with you [and that] there might be some funds?” And he was very open to it. And as I got closer to the end date, we filled out a formal proposal together.

Jeff:

And as soon as I graduated I cleaned up shop and moved out west. The second post-doc I did was a much more formal application process. It started out with a job advertisement coming across one of the many meteorological mailing lists, I think it was tropical storms mailing list, for a position at Lamont in collaboration with NASA Goddard Institute for Space Studies in New York, helping them build a climate model. And so I thought, this is totally my background. I love working with tropical storms. Let me put in my name and within a month or two I'd heard back and we just sort of went back and forth with my advisors there, well, my soon-to-be advisors there, Adam Sobel and Suzana Camargo, and the application went through and I picked up shop and moved back across the country.

Rex:

And I assume these kind of post-doctoral positions by their nature are sort of a limited timeframe. So then that led you to where you are now at AIR, correct?

Jeff:

Yes.

Rex:

What was that transition like?

Jeff:

That one was more of a mental transition, I would say. Like you said, post-docs are very transient and very much dictated by the amount of funding and support available for them. I had been coming up on a sort of review cycle in my second post-doc and decided that I had gone through the entire grad school [process], I had done some post-doc work, and I always had this nagging feeling that maybe academia wasn't the right path for me. So I started reaching out and exploring through my network any sort of positions that dealt with weather or climate and if there were any openings. And sure enough there was one [and] I applied for it. I let my advisers at Columbia know and they were very receptive, which was a great feeling. And it was nice to know that I still had the time for another year of my post-doc and this was more of a personal choice to exit the academia sphere and enter industry.

Rex:

Great.

Kelly:

So Jeff, what opportunities do you wish you may have pursued now that you're at AIR Worldwide? Are there any courses or any other types of activities that you wish you engaged in that might've been helpful?

Jeff:

The biggest suggestion for at least my past self would be to focus less on what I entered undergrad doing — what's called a pure mathematics career path. That is sort of the mathematician as a professor level of math and not necessarily the applied version of math. I wish that I had instead very much used the applied route as I don't find myself finding curvature of rings anymore, as I do doing financial analysis. So that's probably one suggestion I would make, definitely finding the applications for the science and math that you're learning.

Rex:

Among your colleagues, do you have a sense of how do you describe the job market for meteorologists, other researchers in this field going forward into the future?

Jeff:

So my general feeling coming from the direction that I have been is that academia is still bottlenecked in more ways than one. There's a lot of very, very bright students coming up through it and not a lot of positions opening up. So if you want to commit to an academic path, be sure about it and work hard and you'll find a position. I know plenty, plenty of success stories, but they are truly for dedicated and passionate academic mindsets. For private industry, if you are interested in weather or climate or any of the related environmental fields, I'd say now is actually a very, very promising time to jump into it. A lot of companies who either already have the background in weather and climate are hiring, or are companies that given the current climate change are trying to open up and hire people who can help them better prepare for any future scenarios that they might encounter.

Kelly:

Jeff, could you walk us through a typical day on the job so that our listeners have an idea of what it's like to work at AIR?

Jeff:

Sure. So AIR is an international company. We have offices around the world. So my day usually starts with the typical going through emails and catching up with things that have happened overnight, as well as conference calls with some of our foreign offices, just because of the time differences. And then the rest of the day tends to be structured around individual projects, either in meetings or independent work or even just offhand one-on-ones with fellow workers.

Jeff:

The company is sort of structured into, or at least my end of the research division at AIR is structured into individual hazards. And so I tend to work a lot with fellow tropical cyclone researchers. And the core purpose of what we're doing is to sort of build models of risk associated with a particular hazard. So that involves, in my end, building hurricane models for individual areas around the globe, testing them and updating our risk catalog. We also — now that the hurricane season has begun — offer a sort of semi-real-time alert system that is sort of semi-operational in that as a hurricane develops and begins to threaten a high risk area, we issue alerts and run our models in a sort of synoptic, semi-operational sense to help people on the ground prepare for any sort of outcome.

Kelly:

So are there like specific clients that you're assigned to, or do you do some of the research work that you then forward on to client service staff at AIR, and then they forward that on to the stakeholder? How does it work?

Jeff:

So more on the second end. Every now and then we'll get questions from individual clients and we address those with respect to that individual client, but much of my work is geared towards the broader research or science. And so it's more about building up models that we then package and ship off to individual companies or shareholders or what have you.

Kelly:

Is there a lot of programming involved in it?

Jeff:

Yes. It's largely a coding operation. There is some analysis as well —data analysis. We're dealing with not only models, but observations and so we have to be aware of limitations of both of those and how to quality control both of those.

Kelly:

Sounds very interesting.

Rex:

Jeff, what do you feel you like most about your job? Whether it be a certain type of person you get to work with, a certain stage of project achievement or particular topic area. What spikes your interest the most?

Jeff:

So I am incredibly interested in tropical cyclones and hurricanes. That's sort of something that that came about when I was a graduate and undergraduate student. But I've also always been interested in not only dealing with the day to day forecasting work of, “This hurricane is building in the Atlantic. Is there any chance that it'll hit Florida? And if it hits Florida, how bad would it be? Should we prepare? Should we warn clients?” But also the other side of, “On average, can we expect this to come through? Can we build a model that sort of simulates that? Can we better understand the underlying science and use that to upgrade our forecasts?”

Jeff:

And so where those two meet in my job is where I find the most joy. This is, I should say, my first year working with AIR. And so this is my first hurricane season with them. But so far it's been exactly what I'd imagined. You have the operational end of forecasting that I find incredibly interesting and fun and new every day, as well as the modeling side of it that is continually updating, you're continually making it better and finding out new tools, new code, new ways of analyzing data to better our company's product.

Kelly:

Sounds like the perfect job for you. So on the other end, what do you find challenging about the job?

Jeff:

The most challenging part is, I would say it's similar to a lot of what scientists deal with it, it's just translating what you do from the high level science to not necessarily layman, but to other scientists or non-scientists, just other people, and trying to communicate what you're doing, what you're seeing and addressing it to certain groups interests. So for instance, the work that I'm doing on a North Atlantic hurricane model is very scientific, very rigorous and I can show that level of rigor to my fellow research scientists in my group but then when I address say the vulnerability team that studies the loss from this hazard, I have to sort of dress it down and say, it's less about sort of quasi geostrophic effects and it's more about the wind is being funneled into here, you're going to see a lot more issue with wind and surge at this inlet because of the geography. And then when you deal with the financial end of things, you have to effectively communicate what you're doing into their specific vocabulary.

Rex:

How does the work-life balance treat you at your current job?

Jeff:

I love it. I mean, I'm coming from academia where there's basically no off day. To now, it's a very structured nine to five. You get into the, it's more like eight to five for me, but you get into the office, your mindset is okay, I have eight hours to do what I need to do. Let me get it done. And then once the

bell rings at 4:30-5:00, you get up and you just, you don't have to worry about it anymore. I can go and have the social life that I in some ways was missing in academia.

Rex:

That sounds like a welcome relief.

Kelly:

And you're in Boston too. So it's like a great city to be able to have some free time.

Jeff:

Yeah. Although, quarantine now, so it's a lot more local.

Kelly:

Besides the quarantine, do they offer you the opportunity to work from home normally?

Jeff:

Yes, actually it's when I was doing the job hunt, AIR sort of stuck out to me in the amount of benefits they offered to you, one of which is a dedicated one day a week work from home policy that you just need the first one okayed by your immediate supervisor and then it's good to go for the rest of whenever. I mean, now I'm always working from home, but.

Kelly:

Right, but this will be over. Fingers crossed.

Jeff:

Once this is over, I will look forward to having my Fridays.

Kelly:

Is there anything really exciting that happened to you either while you were in school or while you were doing any research or field projects? Is there anything in particular, an event or maybe an opportunity to travel that you would say, yeah, that was a really great time.

Jeff:

Probably the most exciting part of my career so far has been the moves between the various schools. So I did my undergrad, I should say I grew up in Pennsylvania and then did my undergrad at the University of Virginia and then did my graduate school at Princeton, in New Jersey. So I sort of north to south to north. And then my first post-doc in San Diego was my first time living out west and driving across the country to get out there was just a once in a lifetime experience. But then when that post-doc ended, I drove back out east to New York and so I got to experience that twice. And that was life-changing. It was very, very exciting. And thankfully, one of those I got to do with my father, which is an experience I'll never forget. The other I did solo, which was amazing for its own reasons.

Kelly:

What do you like better, west coast or east coast? Or do you like them both?

Jeff:

Oh, I very much am an east coast guy, but I can totally get living on the west coast.

Kelly:

Yeah. That weather in San Diego. I mean, you can't beat that. Every day is perfect.

Jeff:

Every day. You don't have to worry about the weather. You just wake up and it's sunny and 70.

Kelly:

Yeah. I agree. Although, if you grow up on the east coast…

Jeff:

I like a little misery in my life.

Kelly:

Me too. You're going to miss the snow and the history and you know, it's pretty nice being on the east coast, even though people hate the winters.

Jeff:

Yeah.

Rex:

So Jeff, I know you've only been at your current job for one year so I'm asking this next question broadly, and I'm not talking about any immediate plans, but is there anything you'd be excited to take on in the future? You know, either hypothetically like a different part-time role, a different volunteer opportunity, a different career path that kind of intrigues you and that you might want to try out in the future?

Jeff:

So I came to the realization when I was sort of deciding if I wanted to stay in academia or industry that no matter what career path I took, I wanted it to deal with weather or climate on a daily basis and not just as a side note. So that's why I found this position, I was just so excited to jump on the opportunity. That being said, the transition from academia into industry sort of, I feel like it frees up my reservations on what jobs I could actually jump into.

Jeff:

I still very much want them to deal with weather and climate on a daily basis. But now that I'm in the private sector, I realize there's a lot more opportunity out there. So where my career will take me, I'm unsure. I'm very happy with it right now, but I'm always open to new opportunities. In terms of the work-life balance opening up, I would love to get back into some volunteer work. I was doing a little bit of teaching, volunteer teaching, as a post-doc and a graduate student but now that I have a lot more free time on my hands, I'd like to get back into some more community events, maybe with local museums, anything to really get out and meet some new people and teach some good science.

Kelly:

How about professional development opportunities? Do you engage in any of those to keep current, or do you have plans for doing anything additional?

Jeff:

My company actually wants us to stay up to date with, so say like AMS or AGU, they pay for us to go to conferences once a year and keep up to date with what's new in the science. I still keep very close contact with my old academic network in case there's any new science that comes across the wire. I'm actually still involved with some scientific projects with my last post-doc at Lamont that might lead to some interesting papers. And actually one of the coolest parts of AIR and its parent company Verisk is they have just enormous library of professional learning tools from say learning a new coding language to actually taking courses at local colleges and they pay you to do this.

Kelly:

Nice.

Jeff:

So as soon as I, I think there's like a 90 day limit on that, but I'm sure I've passed that now. Once those opportunities open up, you bet I'm going to jump on like every single one that I can.

Kelly:

It sounds like you have plenty to keep you busy that's for sure.

Rex:

So let's say a student, freshman in college comes up to you. They say, "I love meteorology. I have absolutely no idea what I need to do to establish my career. Where do I start?" What would you say to them?

Jeff:

I would say, so if you're in college, you should try and find your local meteorology, environmental science, any sort of earth-related department and just start asking around, see what people are working on. See what interests them, see if your interests align with theirs, especially if you're just starting off in undergrad. I know from my experience that you're not going to have a lot of ideas of what's out there, but people will tell you that it's always networking, meeting with people, broaden your horizons. Just talk to as many people in the field, both collegiate and government.

Jeff:

I remember when I was a teen, actually, my dad caught on that I was very interested in weather and took me out to our local weather forecasting office for some summer night event that they were hosting. I think it was for their citizens storm alert. And I just got to meet with a bunch of the scientists that work there and talk to them about “What makes you interested in doing your job? What do you find exciting?” And taking that in and sort of thinking, “Do I find that exciting? Would I enjoy doing that?”And if not, then that's fine, talk to someone else, find something else. But if it does excite you, then what path did they follow? Can I follow in a similar path?

Kelly:

It sounds like taking advantage of your advisors has helped you out a lot as well. Because you know, the meteorology departments are usually pretty small and it's a small kind of close knit group.

Jeff:

Yeah, very much so. But it is nice in that, especially in academia, everyone seems to know everyone. And so you can, once you get a foothold into the network, you can very easily make new acquaintances and get your name spread around.

Kelly:

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

Jeff:

Oh gosh. My favorite food is actually something my mom found years ago and now makes for my birthday. It's called chicken thai wraps. It's basically a glorified chicken burrito, but the key to it is this peanut sauce that, I don't know how many tubs of peanut butter she puts in there, but it's like a molten Reese's Cup. It is so good. Google it. I'm sure, just the peanut sauce alone you could use on anything.

Kelly:

Peanut butter makes everything better.

Rex:

I have Thai food about once a week myself and I always ask for extra peanut sauce on the side. That sounds delicious. Thank you so much for joining us, Jeff, and for sharing your work experiences with us.

Jeff:

No, thank you for inviting me along.

Rex:

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