Transcript of "Larry Gloeckler, Principal Data Engineer at the Demex Group in Washington, DC"

Clear Skies Ahead: Conversations about Careers in Meteorology and Beyond

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Kelly Savoie:

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

Rex Herbst-Horner:

We're happy to introduce today's guest, **Larry Gloeckler**. He's a Principal Data Engineer at the Demex Group in Washington, DC. Welcome, Larry. Thanks very much for joining us.

Larry Gloeckler:

And thank you for having me.

Kelly:

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

Larry:

Sure. So maybe I'll start with what sparked my interest. So I think, like most meteorologists, the interest was sparked at a very young age. For me, it was the blizzard of 1993. I was living outside of Albany, New York, at the time, and I was three or four years old. That was a very memorable storm because it produced snow that ended up piling up deeper than I was tall at the time. And I have pictures of me at that young age standing next to a snow bank and looking as if I could have just gotten buried. It was really a pretty amazing experience for somebody so young. And that is really kind of what got me going down this path. Since that point, I've been very interested in all sorts of severe and extreme weather events, from snow to thunderstorms to heat waves and cold air outbreaks.

Larry:

And over time, my interest in those events has kind of morphed into also how they apply to businesses and just kind of our day-to-day lives. So that is kind of what got me started down my educational career path. I received a bachelor's, master's, and PhD in atmospheric science from SUNY Albany. So went to school very close to home. Was lucky that I had such a good program nearby. And I think that really set me up for what has so far been a very interesting and rewarding career albeit a very young one at this point.

Kelly:

Yeah. I'm sure you get a lot of snow in Albany. You got your fill from that.

Larry:

Yes, we do. Yeah. And now being in Philly and soon in DC, we don't experience nearly as much in the way of snow as I was used to experiencing in upstate New York. But when it does snow down here, it feels a little more special because it doesn't happen as often.

Rex:

So you're an applied meteorologist.

Larry:

Yes.

Rex:

Which means you're taking your knowledge of weather processes and applying them to other areas—energy, agriculture, supply chain. Is that a fair definition of what an applied meteorologist is for those that might not be as clear as how that's different from a forecaster or another person in the weather field?

Larry:

Yeah, it is. I take my kind of domain expertise in meteorology and apply it to other industries. So prior to working at the Demex Group, I worked at a company called Riskpulse, which became Everstream Analytics. And that was really more of a supply chain/risk management solutions software company. So my role there was to apply my background in meteorology to supply chain risks and help customers understand how their supply chains were affected by extreme and hazardous weather and their supply chain and business sensitivities to extreme and hazardous weather and also to our changing climate.

Rex:

So when I was in high school, I don't think I knew too much about what a supply chain was. Where did you acquire this focus in applied meteorology from your initial interest in weather from that blizzard that you experienced? For instance, in high school, were you a science guy? Were looking for weather at that point? When you went into college, how did you reach this applied meteorology side of things?

Larry:

Yeah, that's a great question. So when I was in high school and I had come to the conclusion that I wanted to go to college to pursue a degree in meteorology, I thought that what I ultimately wanted to do with that was be on TV. And when I got to UAlbany, I learned about other career paths in meteorology. National Weather Service was one of them. I interned at the National Weather Service office in Albany, which happened to also be attached to the UAlbany campus. And then when I was between junior and senior year as an undergraduate, I was connected with a former UAlbany graduate student who was working at an energy company in Chicago that was Chesapeake Energy. And I learned that there was another kind of path that I hadn't really considered that I could pursue in energy, in commodities, a bit more kind of private sector-oriented.

Larry:

And I went out to Chicago the following summer, it was summer of 2011, and spent a few months out there interning at their weather office and found that I really liked it. It was just kind of trying a bunch of

different things, realizing that some things I didn't like as much as I thought I would, and other things that I really know about until I had an opportunity to try them out, I really liked. So that was kind of how my thinking evolved and kind of what got me started down this path as an applied meteorologist.

Kelly:

Did you ever do any internships in broadcast meteorology, or did you just decide "that might not be for me" naturally?

Larry:

So I did. I did intern at a TV station in Albany during the summer of 2010. And what I learned during that internship is it just wasn't really for me. I liked the people I worked with, but the career opportunities in broadcast meteorology—the growth opportunities—to me just didn't seem like they quite aligned with what I had in my mind. And it was a good experience in that it helped me understand that that wasn't really what I ultimately wanted to pursue.

Kelly:

You didn't want to wake up at 3:00 in the morning?

Larry:

Yeah. I was doing that pretty much every day and I even, I think, one time accidentally overslept and realized that I had completely missed the morning program when I woke up at like 7:30 that morning. So that was definitely a caution flag.

Rex:

So you were finishing with Chesapeake Energy while you were still a student as an undergrad, correct?

Larry:

Yes.

Rex:

And then I know you went into a master's degree and then even beyond that. So how did you make the decision that you wanted to pursue a higher degree above the undergraduate at that point when you kind of opened up to seeing this applied weather world?

Larry:

Yeah. So actually, my internship at Chesapeake Energy happened during the summer between my undergraduate and graduate, kind of ending undergrad and beginning grad school. What got me to decide to go to grad school was multiple conversations over an extended period of time with many of my professors and mentors. And I felt as if I wasn't quite ready to finish school yet.

Rex:

More to learn.

Larry:

There's more to learn, also, perhaps, not really knowing exactly what I wanted to do yet. So it gave me a little bit more of an opportunity to figure that out and explore. Again, I was lucky that there was an opportunity for me at UAlbany, and I ended up kind of just falling into that opportunity. And it really paid off, I think, for me. Just allowing me to kind of figure out what it is I really wanted to focus on and gave me opportunities to not only kind of develop my research skills, but also kind of connect with people and industry and explore some opportunities as a consultant. And kind of got me to where I am today, I think, as a result of all of that.

Rex:

So what would you call your first job in the field outside of school? I know internships are jobs too, so I'm not at all discrediting how that was a valuable experience as well.

Larry:

Yeah. So I actually would say that my first job was a part-time role that I held while I was a graduate student. During my early grad school days, I had the opportunity to intern at a startup called EarthRisk Technologies based in San Diego. Thankfully, it was a remote internship, so I didn't have to relocate to San Diego for summer, although I think that would've been pretty nice.

Kelly:

Yeah. I was going to say that you probably wouldn't have hated that.

Larry:

No, I don't think I would have.

Rex:

So you're an old-school remote worker.

Larry:

I am an old-school remote worker. Yeah. Perhaps during the kind of starting days or the origin days of remote work, but yeah, that allowed me to then transition into a consulting role and be a part-time research advisor and consultant for that startup. So this was in 2013 that I started that and then that carried me all the way through the end of grad school. So I was doing maybe eight to ten hours a week as a consultant on top of the research that I was doing.

Larry:

So the amount of time I put into it varied, but that allowed me to build my network outside of academia while I was a student. It helped me build a good rapport with a number of my colleagues and ultimately someone who would become my manager at Riskpulse. Now, Riskpulse was established through a merger of EarthRisk Technologies and another company called Stormpulse. And when that merger occurred, Riskpulse became much more supply chain focused. EarthRisk was more energy and commodities focused. So that's kind of how I went from energy and commodities over to the supply chain. And then from there into a full-time role as an analyst at Riskpulse.

Rex:

Did you have to pick up some economics knowledge along the way? Did you take classes in economics or things like that?

Larry:

I didn't take any classes in that. Those are the kinds of things that I had to kind of learn on the job.

Rex:

Right.

Larry:

Yeah. Maybe an unsolicited piece of advice I would give to people looking to make a move into an industry or private sector career in meteorology is consider taking some courses outside of the core meteorology course set. And if you have the opportunity, perhaps consider minoring in something outside of meteorology. If you have the opportunity to pursue courses outside of meteorology and graduate school and it doesn't interfere with your research, I would suggest that as well. Ultimately, I think you will still have to learn things on the job that will still be a requirement.

Rex:

That's the hard fact of life.

Larry:

Yeah, of course. But by having that foundation—the foundational knowledge—going into a career in supply chain or risk management or in climate risk management or energy or commodities or whatever it might be, it certainly makes things a lot easier.

Kelly:

So now you have recently started at the Demex Group, which I think is a bit different than what you're used to. So for our listeners out there, could you give us an idea of what your duties and responsibilities are now and how you spend your day?

Larry:

Yeah. So my day is spent largely in our code base, writing code and managing our data pipeline. So it really, for me, starts from acquiring a new data set and then ingesting that new data set into our local data repository, and then connecting or wiring that data up to our various products. So that requires code knowledge, knowledge of the data set itself and how it's structured, but it also requires good communication skills. Communicating not only with colleagues about what we want to do with that data ultimately, but communicating with our data providers, our customers, to understand what they would like us to do with that data for them. So I think that in addition to more of those hard skills that you pick up as a student when it comes to things like programming or analyzing data, communication's also a really important skill to develop and master. It comes in handy in pretty much any role that you might be considering.

Kelly:

So did you take a lot of courses in programming and in computers and machine learning when you were in school? Did you have a really good background in that?

Larry:

A lot of the skills that I developed in programming were kind of self-taught. I did take some classes. In terms of data analysis, machine learning, that's pretty much all self-taught. My first programming language was MATLAB, and then I moved over to Python when a lot of researchers in meteorology were starting to adopt Python as a scientific computing language. Kind of the knowledge that I built up when using both of those languages, it was largely self-taught.

Kelly:

Do you have any favorite sites or ways that you were able to learn that yourself?

Larry:

I tell a lot of people that you have to be good at using Google to figure out kind of how to troubleshoot and how to look up documentation. Stack Overflow is a really great resource out there for programmers. So a number of times, whatever I was Googling kind of led me to that particular resource, but you just, I think, have to be good at kind of doing your own research when it comes to working with these programming languages and troubleshooting. There are also a lot of really great resources. Like on YouTube there are a lot of free courses or lectures out there that you can come across. So there's a lot of really great information, perhaps a little overwhelming because there's so much of it, but all of those resources I have used at some point or another.

Rex:

So I understand you're now working, let's say, “behind the curtain” with Demex, and I understand that at your previous role you were more customer facing. And that's one aspect of what's different between the two jobs. Does that relate to what you like most about your current job or how you conceptualize what's valuable about a job? Give us some more insight into that department.

Larry:

At my previous role, I was actually hired to be more of a technical advisor and science advisor for our customers. So it was a customer facing role, but it at least initially required me to do a lot of analysis and programming and kind of science communication. Over time, it evolved a little bit away from the technical and analytical set of responsibilities that I was originally hired to cover for the company. And I felt like I wanted to kind of get more back toward the technical and analytical work that I had been doing and had kind of trained to do, really, as a student in meteorology.

Larry:

For me, it was something that I had a lot of interest in, so kind of wanted to realign my role. And this kind of search for a new position, this lasted over several months. And I ended up, I think, getting lucky with this role that opened up at Demex. It aligned well with my timeline for searching for a new job. And I knew a few people that worked at Demex as well, so that helped. And moving into this kind of more

technical kind of code and data focused role has been very fulfilling for me. And it has gotten me to realign with what I have interest in pursuing through my career. So it does feel like it was a good move.

Rex:

Well, congratulations on that and it's great that you were able to recognize what you were looking for and then to meet that goal.

Larry:

Thank you.

Kelly:

And it sounds like you're still able to use science communication when you're talking to customers. I know you do a lot of coding, but you have that piece as well. And I wanted to ask you, so coding sounds like it's very focused. Now, do you listen to music while you code, or does that keep your focus away from what you're doing? How do you do that on a day-to-day basis? Is there anything that you do that makes it more interesting or calmer for you when you're doing that?

Larry:

Yeah. I definitely listen to music while I code. For me, it really depends on the specific task that I'm working on, but yeah, I have found that in certain situations, it really kind of helps me to focus and really become laser focused on what I'm doing depending on what I'm listening to.

Kelly:

Yeah. I can just imagine that if I was doing that, I may listen to music as well. So on the flip side, what are the biggest challenges that you face in your field now? What is challenging about your position?

Larry:

Well, I am eight weeks into my new role. So, basically, for the past eight weeks has been like drinking from a fire hose just learning about our company's code base, learning about all the things that I'm now responsible for. And we're a small company. Demex is also a startup, so we only have about twenty full-time employees. We are all doing multiple things every single day, wearing multiple hats. I definitely am not always doing things that you might consider a data engineer to be responsible for, but it makes the job really interesting. I think that's just a big challenge of working for a small company, is just being able to kind of manage all the things that you have to do on a daily basis and prioritize. Communication, again, is critical when it comes to working for any organization really, but for a small organization in particular. And we are spread out over multiple kind of location. So DC is our headquarters, but we have an office in New York City. We have another office in Raleigh.

Kelly:

Oh, wow.

Larry:

And we have some employees also working a hundred percent remote. So that kind of makes it a little bit challenging too. I mean, this is just the way that the modern workforce, I think, is structured. We're just kind of distributed, we'll probably become even more distributed as the company grows. And I think

ultimately that's just a challenge that everyone's going to have to face at some point. Those are some of the big challenges, I think, that I face on a day-to-day basis.

Rex:

Thanks for sharing. So we know that science is always evolving and we know that technology is always evolving in terms of the programs you're using for your coding and your data analysis. What professional development opportunities do you pursue to keep current in the world and in your field?

Larry:

Yeah, that's a great question. So I have been a member of the American Meteorological Society since 2009, I think, and I've been very active in committees. So I was an Energy Committee member and chair. I was a member of the Board on Global strategies, the Board on Enterprise Economic Development and I'm currently an observer of the Financial Weather Committee. I can never remember the full title of that committee, but just being involved in those committees, I think, has absolutely benefited me from a professional development standpoint. Also, I've participated in a number of conferences—AMS conferences—and the AMS Washington Forum. So just having the opportunity to participate in those conferences, those venues has been very beneficial as well. Networking has helped a lot and taking the opportunity to network through those committees and conferences.

Larry:

Now, one thing I think that I would like to get better at is kind of expanding beyond AMS. And I think that would really benefit me as somebody who works at a company where not everyone is a meteorologist, where people kind of come in with different backgrounds. So finding other professional organizations to join or meetups with people outside of the weather industry. And it's so easy to do these days even virtually. I think that that's something that I would like to, I think, get a little better at doing and probably something that I would recommend to students who are looking to pursue a career in meteorology and especially in the private sector.

Kelly:

Yeah. I was just going to ask you that question. You gave us a little bit of insight and some advice for students who might want to get into energy and commodities, but when it comes to specifically doing data analysis, what advice do you have for students either while they're in school specific courses that they should take, or maybe internships at specific organizations? Could you give us some advice?

Larry:

Yeah. So I think taking statistics courses and linear algebra definitely helps in our field. There are opportunities for you to go as deep or as shallow as you'd like in machine learning and in data science. There are, again, some free resources online that can certainly get people started down those paths. If there are opportunities to take a machine learning or data science course at whatever school someone might be attending, and I would suggest for that individual to look into doing that if they have interest in a career that is more analytical in nature. Machine learning, data science, I mean, those may sound like kind of buzz words or buzz terms, but having skills in those area, I think, makes people very marketable. And those are highly sought after skills in the weather industry and beyond too.

Larry:

So I think another piece of unsolicited advice would be if you have interest in a career in data analysis, data science, machine learning, pause for a minute and ask yourself if you are okay with pursuing a career outside of meteorology, or if the meteorological focus is really important to you. For me, I'm at a point in my career where focusing on weather and climate is very important for me, but maybe ten years from now I will feel differently and I'll think, maybe I can pursue something outside of the weather industry. So just having those skills, I think, makes you a bit more flexible in terms of the various options that you have in front of you.

Kelly:

Yeah. It definitely opens a lot more doors having those skills.

Rex:

Well, thanks so much, Larry. We'll check in ten years from now and have a look back and see where we're at from that point.

Larry:

Absolutely.

Rex:

We're so grateful for everything you've told us about your career, your bits of unsolicited advice, which I'll say we maybe secretly solicited out of you. However, before you go, we want to take a look at the person behind the meteorologist and ask you an off topic question. So I've heard you're a fan of music and you might have a favorite musical group, if you could tell us about it.

Larry:

Yeah. So I right now am very into a musician who goes by Roosevelt. So yeah, it's more kind of like indie, kind of electronic, synth-pop. It's very kind of upbeat. He has a very kind of unique sound. My music interests, I think, are pretty eclectic, but that is who I am very interested in right now

Rex:

And is it good coding music?

Kelly:

I was going to say, "Do you have a Roosevelt playlist for your coding?"

Larry:

Yeah. So I do listen to Roosevelt a lot while coding. Yes. I think the tempo and kind of the upbeat nature of his music helps me to focus while I'm writing code.

Kelly:

I'll have to look that up on Spotify.

Larry:

Yeah, absolutely.

Kelly:

Well, thanks so much for joining us, Larry, and sharing your work experiences with us.

Larry:

Yeah. You're welcome. It's been great to join you, and thank you for reaching out to me to allow me to do this.

Kelly:

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

Rex:

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