

Jinny Nathans: This is Jinny Nathans on June 6, 2018. I'm in Denver at the WAF/NWP meeting. I am here now talking to Gary Lackmann, and my first question is what was it that made you want to become a meteorologist?

Gary Lackmann: I didn't decide on meteorology right away in college, but I had been interested in it my whole life because--it may be traceable back to my wanting to get out of school, because of snowstorms. I grew up in Seattle, Washington, it's very hilly, they don't have snow removal equipment, and winter storms are notoriously difficult to predict there. Growing up as a kid they would say "winter storm warning 4-8 inches of snow expected," and it would just rain, and we would have to go to school. And then other days, they would say "periods of rain temperatures in the 40s" and we would get heavy snowfall. And it would just shut down the city, it's so hilly, there's so little snow removal.

I was amazed and in awe of the fact that this phenomenon that could completely shut down the city for up to a week was so difficult to predict, and people didn't seem to be able to do anything about it. I thought I would like to study that so someday I can understand why these storms are so difficult to forecast, so that inspired me when I was in high school, I remember calling around, I didn't know where there were good meteorology programs. One of the local television weathercasters, Harry Wappler: I called and he answered the phone, which surprised me. He said "well, Gary, you're in luck. University of Washington has an outstanding atmospheric science program and that's right in your backyard."

So I got into the University, and the way the curriculum was designed then, you didn't take any atmospheric science courses until your junior year. Freshman year and sophomore year I was taking calculus, physics and chemistry and all the other education requirements, and I was so excited when I finally was able to take meteorology classes. A formative experience in one of the classes I had, we dealt with weather forecasting, Cliff Mass and Mark Albright taught the class and I guess a group of us had done reasonably well so Prof. Mass pulled us into his office and he said "how would you like to undertake a research project on snowstorms?" And of course that instantly resonated. This is the whole reason I wanted to study this in the first place. So of course, we were chomping at the bit to get involved that research, and eventually even though we were lowly undergraduates at the time, eventually, a journal article was published in the journal *Weather and Forecasting* based on our undergraduate study.

For me and my friends it was a thrill to get to study these historic snowstorms, and that research experience as undergraduate students really made a huge difference, it taught us that research can be fun and exciting and sometimes frustrating and difficult, but in the end, that was a really enjoyable experience. So now as a professor at North Carolina state, I try to always have one or two undergraduate research projects, because I know from first-hand experience of difference it can make, I try to pay that forward.

On the topic of mentoring I should mention I had very a fortuitous opportunity to work at the NOAA lab in Seattle, the Pacific Marine Environmental Lab, PMEL, and I was fortunate for a number of reasons, I had great mentors there. Judy Gray and Alan Macklin were two people there that took me under their wing, and I was in an office with a gentleman named Nick Bond who was a great mentor, he helped me immensely in my time there. My advisor there was Jim

Overland, who is an oceanographer, but he really helped me develop independent research skills. I was very fortunate to get that job because they had advertised that job opening and in my dynamics class the week before we had covered the topic of the thermal wind, and so we'd studied it quite a bit and we may have even had a quiz. I was pretty up on that and in my job interview, out at PMEL, one of the questions they asked me, they said, "tell us what's the thermal wind?" and if I had had that interview a week or two earlier I don't know how I would have answered that question, but as it was I gave evidently an impressive answer and I got the job. And that also, that job and the tremendous mentoring the people at PMEL gave me, really gave my career a huge boost at the time and so I appreciate all--I've had a lot of great mentors over the years, this is early in my career.

Later I had PhD advisors like Dan Keyser and Lance Bosart, and postdoc advisors like John Gyakum, and that is the message that I think is really important. You don't just need mentors early in your career. I have mentors now and I'm 54 years old and I'll always have mentors, you can never get past the stage where you need mentoring. People should always think of mentoring as an ongoing activity, with multiple mentors, and also strive to pay it forward so that you're mentoring people as best you can if people can benefit from your advice and experience. I think that way the whole community can help each other out and I benefited tremendously from great mentors early on and I think that has made me as I've grown older, I have an increased appreciation for how much difference those experiences meant to me and how much difference they made my career and I think it's good for people to always think of ways to pay it back.

JN: When did you become a member of AMS?

GL: When I was also an undergraduate student University of Washington. There was a Prof. there, Prof. Radke, he taught an instruments class, and we were walking back one day from where there was an experimentation that we'd been working with, maybe we launched a rawinsonde or something, and he was just talking to a group of us and at one point he stopped and he said "if any of you are serious about careers in meteorology you'll join the AMS." And that made an impression. So of course, we all went scurrying out and, "how do we do that, what form do we fill out, how much does it cost?" I signed up and I went to my first AMS conference when I was a junior undergraduate, it must've been shortly after I joined, and I was just--yeah, I felt like this is my community. "These are people that share my passion, my interests," and that was also very reassuring. I always feel there's this steady presence of this professional society, that sort of sets the standard for our field, and it seemed like a small enough field that it was close-knit. People were supportive and encouraging, it was a welcoming environment. Coming in as an undergraduate student it can be intimidating to go into a career field, but the AMS also helps with mentoring and connections and setting the tone for bringing the community together and building mentoring and networking relationships.

JN: How has your membership or your activities at AMS changed as you've advanced in your career?

GL: There's a lot of different involvement. If I stop and think about it, there's many different facets. I can remember heated exchanges between important scientists at conferences when I was a student that had a huge impression on me and I'd think "wow, okay, the people that are the

experts don't always agree, this is interesting," and publishing papers and then later serving as a reviewer of papers and now serving--I served as an editor, subject area editor for BAMS and associate editor for Monthly Weather Review and now I'm editor-in-chief for Weather and Forecasting, and so I've seen my involvement ramp up over the years and now I was elected to the AMS Council this last year. I feel like there's a lot of responsibility that goes with these things but evidently people feel that my message resonated with them and they voted me in. So now I'll try to contribute additional ways. I have a number of ways that I have a platform that I'm pushing, so hopefully that will make a positive difference to the Society as well.

JN: That's great, being a Council member is very very important. I may be wrong on this, I may be remembering incorrectly and will have to snip it out, but as editor of Weather and Forecasting are you following in the footsteps of Louis Uccellini?

GL: He had I think a lot to do with the creation of that journal originally back in the 1980s. My predecessor as editor in chief was Paul Markowski.

JN: Right, but at some point Louis was very very involved.

GL: Yeah, that journal filled a gap, we needed a journal like that, that spoke to the operational meteorologist, that featured research that was relevant to operational weather forecasting. Basically it's a journal that fits well with a lot of the research at this conference, this Weather Analysis, Forecasting, Numerical Weather Prediction Conference. There's a lot of those types of papers in Weather and Forecasting so it's unique, I think it still fills that niche. I may be biased because I'm the chief editor and so I want to see the journal do well, but I think it's a great journal.

JN: That's wonderful to hear. My next question was going to be about the journals, two parts. Is there a paper in particular that some point, some turning point really made an impression on you?

GL: There's a lot of papers, as an undergraduate student you start reading papers here and there, as a graduate student you read lots more and you come to appreciate the amount of work that goes into a paper once you try to write your own, your first one. I have a hard time pointing to a single paper. I know some of the review papers. There is a paper that my PhD advisor Dan Keyser wrote with Mel Shapiro about upper-level fronts in 1986 Monthly Weather Review, that was a very long paper with a lot of information in it, but that was--reading that paper, it's just a masterpiece, I still read that now, it's just one of these articles. Probably the one though that changed things the most was maybe not in an AMS Journal, that was Hoskins et al., 1985, the paper where they sort of repopularized potential vorticity as a tool to study the mid-latitude atmosphere.

JN: Well, it's perfectly fine to have more than one, one of your previous interviewees in the chair gave me five.

GL: There's lots of great papers. My research tends to span several different areas, so there's key papers in all those areas and I don't think it would be productive for me to go through all of them, we'd be here all afternoon.

JN: Well, we can't do that. But that's very helpful and very interesting. So have you just started as editor for Weather and Forecasting?

GL: I took over in August 2017, so it's been a little less than a year.

JN: I wish you luck.

GL: Thank you.

JN: The next question just totally escaped me. Well, you've talked about mentors you've had and have influenced you, how have you mentored both undergraduate and graduate students?

GL: I take that very seriously. I'm in my second faculty position now, but I've been at NC State for almost 20 years, and I've had a lot of graduate and undergraduate advisees. Some people have said I have tough love approach, but I really do care about the success of my students and I feel like sometimes universities get focused on grant dollars and publication numbers but I think the product that universities really produce, the most important one is students. Students that are embarking on careers, in our case in atmospheric science, and we have to focus our energy to help prepare those future scientists as best we can, so I'm very proud, I've had a number of really successful graduate students that have gone on to do wonderful things. Several of them are here at this meeting. Heather Reeves is doing really well at the Severe Storms Lab, I saw Kelly Mahoney yesterday who's at the NOAA Earth Systems Research Lab up in Boulder, Logan Dawson is here, he was one of my undergraduate advisees, he's now at NCEP. I could go on and on, but when I see these people I'm very proud of them, sometimes you see them taking leadership positions within NOAA, I know one of my PhD students that I co-advised, Neil Jacobs, is now second in command I believe at NOAA, I'm not sure of his official title so I should have looked at that first, but he's a Trump appointee. I shouldn't get too political but I'll say he's my favorite Trump appointee, and I think we can leave it that.

JN: That's fascinating. Is there anything else that you'd like to get in, because I don't want to keep you longer than I had promised.

GL: No, I appreciate the opportunity, I think it's great to collect people's stories and testimonials like this. I think the AMS has been a wonderful resource and a wonderful opportunity for me and thousands of other meteorologists, and it's good to have interviews like this, because it helps us reflect on the value the AMS has provided and it helps us reflect on the difference it has made in our careers getting to the point where we are now.

JN: I agree, and some ways we shouldn't just be doing this because it's the Centennial, we should do it all along, so I totally understand and I will say thank you very much!