

Sophie Mankins: This is Sophie Mankins, assistant librarian at the American Meteorological Society and I'm here with Ron Holle at the AMS annual meeting in January 2019 in Phoenix. Ron is going to tell us a little bit about how he got into meteorology and how he got involved with the AMS.

Ron Holle: A few years ago I realized what my seminal moment was. I was 12 years old in Indiana and a storm came through, I believe it was July 20th, maybe it wasn't, but it was close to that. Turns out that it was what now we know as a derecho, and the winds were up into eighties to a hundred mile an hour range for an hour or two. As luck would have it I was alone in the house, powerlines were swinging around, power poles were blowing down, trees were going down. I was scared and I also said "that's pretty cool, what is this thing? I wonder what is going on." It wasn't till three decades later that Bob Johnson and some others discovered what a derecho was. Now I know that's what it was, I'm sure this one is in a database someplace.

So that was a formative moment. The other background information on going into meteorology is my father had generations back a bunch of German farmers, they came from Germany several generations ago and the first thing always talked about when we saw each other was how's the weather today and what's it going to be tomorrow and how's this going to affect the crops, are you going to go out in the field today or how did it go yesterday, how much rain did you have? I never got past that conversation, I made a career out of it. So those were probably the formative things that are fairly common, experiences like that.

SM: And where did you study meteorology?

RH: For my undergraduate degree I went to Florida State University, and for a Masters program I went to Florida State University, in meteorology. I had tried some other things the first year or two in undergraduate, and I just wanted my weather and I wanted it now, and that's where I went and it was a good choice. So I had a lot of work in tropical meteorology and thunderstorms and so on, and that's what I've continued to do.

SM: So you work mostly with lightning, or other things as well?

RH: The original work at Florida State was in tropical meteorology involving thunderstorms and rainfall, and during some projects the lightning detection systems were invented at the University of Arizona and we got some of the very earliest detection systems in our project, I thought it was fascinating as a new way to understand where and when and how much lightning is occurring and what's the situation when it occurs. IT just grew from there into a full-time part of my career. I actually never had a course in lighting or atmospheric electricity. One of the lessons is you never know where it's going to lead you so you take what's in front of you and find what's interesting, what's needed, where there's a niche for things and you go forward with it. That's what happened.

SM: And when did you become a member of the AMS?

RH: In high school. [laughter] 1958.

SM: Oh, wow.

RH: I think I still have the original letter from Ken Spengler inviting me in, I think it was \$7.50 a year. If you want that letter I can send it to you.

SM: Yeah, we would definitely be interested in seeing it, even if you wanted to send us a copy of it, we'd love to see that. And so you've been involved with AMS for a long time, have you been working with lightning here in Arizona for the whole time or have you moved around in your career?

RH: I was in Florida with the NOAA Research Labs when a lightning detection system was first deployed, invented at Arizona, we laid some antennas in Florida and then went out to Colorado and the first larger deployment took place there as well as in Oklahoma, then I went to Oklahoma with the NOAA Research Labs. I finished my years with the federal government on a Friday in 2000 and on the Monday I was in Tucson working for a company to build lightning detection networks, so it's been a continuous flow of things. Now the lightning detection technology from Vaisala is covering the whole world so I'm actually working and have presented papers here on East Africa, Bangladesh and all sorts of topics.

SM: That's cool, so have you traveled all over?

RH: Quite a lot, yeah. I haven't been to Antarctica, but I've been everywhere else.

SM: Let's see, what other questions do we have. Have you done any kind of teaching, have you been involved in academics at all?

RH: Not really, I was in NOAA Research Labs over the years. I've done a lot of outreach to the public and to schools, mostly in lightning education. I'm one of a group of about a half-dozen people I'd say, something like that, who in the late 1990s identified that the lightning safety education and guidelines and recommendations were very inadequate and wrong. Once we had the lightning data we saw that this was really off base, so we rewrote everything, and we think we've probably reduced the lightning death and injury toll by 50-75% since then. Now we're working on it worldwide because we've made a substantial impact in the US but in many parts of the world we have a long ways to go.

SM: I've have talked to a few people who work in the developing world with prediction technologies and such and the challenges that you have when you don't have the robust networks that we have here in the United States.

RH: I'm involved in the last few years with African Centers for Lightning and Electromagnetics, ACLEnet, and we have centers in a couple of countries in Africa, we just had calls this morning that a couple of other countries are interested in having us establish centers over there. The death rate is about a hundred times larger than it is here for lightning, so it's not going to be solved in our lifetimes but we're trying to apply some of the messages and some of the lessons we learned from the last twenty-five years here to these countries. It's going to be a long process.

SM: It takes a while, but it's very important work, certainly. Are you a regular attendee at these annual meetings, are you an annual meeting fan?

RH: I come every other year because there's a lightning conference every other year. I was going every year for a while. The lightning conference has become a major event. Actually, I help put on the Vaisala lightning conference which alternates with AMS lightning conference, so I see people every year, in fact there's two or three lightning conferences every year, so I can't do them all. I only have eight presentations this year. [laughter]

SM: I think I saw something on the program about predicting extreme weather in regard to large gatherings of people like sporting events, was that something you were involved with?

RH: I wasn't directly involved in that event, but I had a poster on the lightning impacts on US college football games. I'm working with a sports medicine... athletic trainer, that's what she is, athletic trainer at East Carolina University. She's the head of the department of athletic training there. So we're looking at when and where lightning has stopped games, for example two weeks ago a game was stopped, a ballgame was stopped, so we've analyzed that one. We're finding that the way the football games are being managed with respect to lightning is chaotic, it is not well done at this point. So there's a lot of work to do in that area. Games are being suspended or called or whatever for reasons that are not clear, and it would be good if it was more objective, it would probably cut down on the amount of delays and so on. Anyway there's a lot of things to work on.

SM: There's a lot even in just the psychology of how people respond to information, I think that's been a big theme at this annual meeting is trying to more effectively communicate the science to the public and the people who need it.

RH: Now we have really precise lightning data, but the response is fuzzy and chaotic. We have the precision data, but the response is not precise, I would say that's for sure.

SM: A work in progress. Is there anything that you would like to talk about and share with the AMS?

RH: I think I would say one thing, when I finished school at Florida State University I went to work for Dr. Joanne Simpson who was the first woman president of AMS and first woman PhD in meteorology I think in the world, and that was quite an experience, it was amazing. I had a mentorship of her and Dr. Robert Simpson who was the head of the hurricane center, and he published a book about the history of tropical meteorology and hurricanes as he knew it up to his age of 101. So, I have a few years to go yet. [laughter] I'm just getting started compared to them, both of them were publishing into their late eighties and he was 100 years old when he wrote this book, it's one of the most well written books, insights subtleties and so on, amazing. So anyway they were very very important people in my career.

SM: That's good to hear.