

Jinny Nathans: This is Jinny Nathans, AMS archivist, and I am interviewing George Kiladis at the WAF/NWP conference in Denver on June 5th, 2018. I understand you have a story that you'd like to recount, so let's get started.

George Kiladis: I grew up in the Boston area, and I've always loved science, since I was very young. My grandfather had me out looking at the stars when I was probably seven years old. We lived in Somerville, so very close.

JN: I grew up in Cambridge.

GK: Oh, ok, yeah. Well, we were walking distance to Harvard Square and from our neighborhood we could see MIT, and I always noticed the Green Building with the dome on top. I always wondered what was going on over there. I knew about MIT, but I didn't realize the atmospheric science department and people like Ed Lorenz and Jule Charney were actually there in the '60s when I was growing up in that neighborhood.

I loved astronomy and I really wanted to be an astronomer when I was a kid, but then Hurricane Donna happened, I think it was 1962 or thereabouts, early '60s. I was very impressed with weather overall. I was always looking at the sky, anyway. In high school I took a physics class and a math class, I had two teachers there who were very influential, I would say. I took some precalculus and calculus in high school, at the time I think it was a little unusual to have calculus in high school, and as I said I loved the physics class. We also had, Somerville high school had, a Honeywell computer, and I got to take a Fortran class, which was I think pretty unusual at the time. This would've been 1969 or 1970. They used that computer for administrative purposes, but then they had some time for us to play around with it. That was really the only programming class I ever took, and I still use Fortran by the way.

JN: Wow!

GK: That really dates me. So I was very lucky, I think.

In high school I had a job downtown in Boston at a department store called Jordan Marsh, I worked there and at my lunch I would walk around downtown, and I noticed the AMS building at 45 Beacon. I think they even had the flags out, back in those days. And I thought "oh, that's where the meteorologists are," and that was one of my roots, walking down Beacon Street, going up Joy Street to the Appalachian Mountain Club, which was there too. I loved the outdoors even back then, I was tuned in to that.

I went to the University of Massachusetts for my undergraduate, and I took physics. As I said I really wanted to be an astronomer, but I majored in physics to begin with, and I had a really good advisor there. Prof. Tom Arny was an astronomy professor, and he encouraged me to just stick with physics and math, and he said "later on you can decide what you want to do." I did that, I stayed in physics, but I took a class from Ray Bradley in climatology. Ray was in his first year teaching. He had just got his PhD at Colorado and he came to UMass and he became an assistant professor there. He's still there, actually, I see him pretty much every time I go back and visit, which is pretty often since my family's in Boston.

So I was at UMass in Amherst and Ray got me really interested in climatology and atmospheric science. One summer I did a work-study with Ray and he noticed we had these books, I think it was called the World Weather Records, it was climate data and some of it was daily temperature data, and he had noticed in the stratosphere some really large fluctuations in temperature that he was interested in, so I did a project with him on those, and we were trying to figure out how this happened. Now these are now known as sudden stratospheric warmings. They had just been discovered at the time, maybe a little before we started looking at them in the '60s, and we looked at the circulation and figured out, "oh, it looks like these vortices, the polar vortex breaks down sometimes in the winter and causes these warmings."

All that stuff was really fascinating to me. When I was about to graduate, Ray asked me, "well, what do you want to do once you graduate?" and said I don't know, and he said "what about graduate school?" I said "well, yeah, that might be worth doing" and he said "my ex advisor Roger Barry," who was a professor at University of Colorado where Ray got his PhD, "needs a research assistant to do a master's thesis on a project that has to do with Western US climate variability." And I said that sounds pretty good, Boulder, oh yeah, Boulder sounds pretty good. I had been to Boulder hitchhiking back in the '70s when I took a year off in college and I liked it and I thought I could go there, sure.

So I went to grad school at CU in climatology under Roger Barry, and I actually ended up doing my PhD there as well. At the time Roger was a pretty hands-off advisor, which was actually fine with me. I met another student of Roger's, Rich Keane, who was in the program there and became a postdoc at Ceres, at the University of Colorado. Rich had an NSF grant to look at tropical-extratropical interaction. I did my master's as I mentioned on Western US climate variability, and that was really fun, I enjoyed that.

[break]

JN: Where you left off...

GK: I think I was talking about when I worked with Rich Keane on my PhD...

JN: Exactly.

GK: We were interested in these cloud bands that connect the tropics and the extratropics that we noticed on the satellite photos, so I did my PhD partly on that, and also on the impact of El Niño on the extratropical circulation. Looking at how the tropics interacts with the extratropics got me into tropical meteorology. At the time the data was sparse, there were what was called the Tropical Analyses from National Meteorological Centers, sorry, NCEP used to be called NMC. But we didn't have really any digitized data of the tropics. And then I met Klaus Weickmann right before I finished my PhD. Klaus was at NOAA in Boulder and he was very interested in the Madden-Julian Oscillation. A couple of papers that really influenced me were Madden and Julian's 1972 paper, a very famous paper now on the MJO, and also Klaus's thesis work, which he did in the '80s, I believe at the University of Wisconsin, where he's showed that the MJO like El Niño really impacted the extratropics.

Once I got my PhD I got a postdoc, at CERES, and then I started working with Klaus. We got these tapes of global analyses and I think we were among the first, we certainly weren't the first, but among the first, to use digitized global analyses. These were the analyses that they would use to initialize the weather forecast models at NMC. So we thought we should just look at these analyses and see what is going on in the tropics. So that's how I got into tropical meteorology. We did the painstaking work of reading all the data off of those tapes at NCAR and digitizing them.

These days you have re-analyses, they've taken all that data and redone it, done it properly, but we actually got fields of tropical flow and started looking at things like waves along the equator and how the Madden-Julian Oscillation affected the extratropics and vice versa. So that's how I got involved in the tropics, and I've been doing tropical meteorology since then. I worked at Ceres for 10 years as a postdoc and in those days it was relatively easy compared to now to get some money. I had a pretty good 10 years there, and then Ken Gage at NOAA asked me if I wanted to become a NOAA researcher, that was in 1995. I got my PhD in '85, worked ten years at CERES, and became a NOAA researcher in 1995, still in Boulder. That was the other nice thing, Boulder being one of the centers for atmospheric research in the US, it was an easy place for me to stay and develop my career.

JN: Very different from Somerville, though.

GK: Oh yeah, yeah. Well, Amherst was very different from Somerville too, I was kind of happy to get out of the city, as I mentioned I love the outdoors. Boulder was even another step in the right direction for me in that way, too.

JN: That's good, it sounds like you ended up where you wanted to be. Just to follow up with the question, going back to your days when you would walk around Boston and see the AMS headquarters building on Beacon Street, when did you become a member? Was it when you were a student? And what has been most important to you about AMS?

GK: You could probably look this up, but I think I've been an AMS member since the early '80s. I don't know the exact date, but I'm guessing when I got to grad school I joined AMS. At the time I started of course going to their conferences, and to me the community involvement that AMS brought to my career has been a real factor in my development as a researcher. Just to get to know people like here at this conference, we're at the Weather Analysis and Forecasting and Numerical Weather Prediction conference, and this is a community that I actually haven't interacted with as much, so it's a great opportunity to meet all these people that I've heard about and see what they're doing. And of course AMS journals and so on have been a huge influence on me.

JN: Yes, I was going to ask you about the paper that you described as being very influential, and ask you to talk a little bit about the journals and other AMS publications.

GK: Right, yeah. So of course back when I was an undergrad, even, I would go to the library, back then of course everything was hardcopy, and pull out these big volumes and scan through them. That's how we, Ray Bradley and I, found out a little more about the sudden stratospheric

warmings. I don't remember particular papers, I think it was possibly Dick Reed and others who first looked at those. Once I was in grad school in Boulder I really dug into tropical literature, I became very interested in that. As I mentioned the Madden-Julian paper, Klaus Weickmann's paper in the '80s on the Madden-Julian Oscillation, and then Wallace and Gutzler, and Hoskins and Karoly papers which came out around 1980, '81, those were in AMS journals, I'm quite sure, really had a huge impact on me as well. And then of course I publish almost exclusively in AMS journals these days. I've been involved in plenty of papers in other journals, but we like the way AMS handles our work and presents it in their journals, so we always go back to AMS. I think, you know, just being in the US you get a lot of exposure if you publish in AMS journals.

JN: That's absolutely wonderful to hear. AMS at this point has a different publishing process from a lot of other major journals which have turned their publishing operations over to for-profit publishers, and we don't do that. Is that part of what has made you discern a difference?

GK: You know, that point you just made hadn't really dawned on me until recently. Now you see all these other third party publishers handling all these other journals and I think AMS, being in the atmospheric science business, is much better positioned to present scientific results. I think the technical editing and on all the way down the line is just that much better, because you have actual people who are involved in the field handling the publication. And I just like the idea of having a more in-house, if you will, outfit handle publications.

JN: I think it's a very important difference. I'm going to be very pleased to bring that soundbite back to all the publications staff, they'll be very gratified to hear that, because we do regard ourselves much more as a steward of the science and for that reason, the publishing operation is more faceted and detailed than the other, for-profit publishers, because they have really trimmed their operations and yet they've taken over these really major society publications.

GK: Yeah, the technical editing, we're always very happy with that when we get a proof that requires very little work for us to turn it around. The attention to detail and so on I think has been very impressive compared to other journals for us, so I hope it stays that way.

JN: There are no plans to change it. We have to keep up with all the new methods but in terms our process, it will always stay that meticulous.

GK: Great. And I have to say, now of course it's so much easier publishing than it was back when everything was hardcopy, we do things electronically now, but you know, I think AMS has done a really excellent job in making everything efficient, and we're very happy with it, which is why we publish primarily in AMS journals still.

JN: That's wonderful to hear. Shall we end on that high note?

GK: Sure, yeah.