

**Chet Ropelewski:** How did I get to be a meteorologist? Many people in our field, many people I work with, they talk about their early love for meteorology starting off in grammar school and so forth, they used to take records of temperature and rainfall and all that when they were growing up. That isn't the case in my case. I was always interested in geology and geophysics, I thought I was going to go and study that, but I was in high school when the Sputniks were launched, and the big push then was for people to get into physics. And I liked physics.

I went off to school and I got a bachelor's degree in physics, the degree was granted on the second of June 1964 if I remember correctly, that was a Saturday, and on the fourth of June 1964 I got a letter from my draft board. There was the military draft at that time, which took me by surprise because I hadn't really decided what I wanted to do. The main thing I learned after getting a degree in physics is that I did not like modern physics, quantum mechanics and so forth. I still wanted to stay in some technical field, but I didn't know what. I thought a little bit about going back into geophysics. I talked to people in the field and they had two questions for me, one of them "do you want to teach?" and I said well, not particularly, and then "how do you feel about oil exploration in the Middle East?" And I didn't want to do that either.

So I was still trying to figure out where to go. I had had application into grad school in physics as a backup but I wasn't enthusiastic about it. There was a friend of mine who had the same situation and he said, "oh, let's go talk to the military recruiters." So we talked to the Navy and the Army and the Air Force. The Air Force had a program, I don't remember what the other two had, but the Air Force had a program where if you had a college degree you could go to officer training school, it was a 90-day wonder thing, and get commissioned as an officer, which sounded to me like a better option, so I said fine, we can do that. They said well, it's a very popular program, we can't get you into the program until March of 1965. I took that information to my draft board, and the draft board said "sorry, we have quotas to meet, so you're going to be in the military by December of this year."

I ran back to the Air Force recruiter and I said "what can you do?" and he said "oh, the classes are tight, but we have a shortage in a couple of fields." One of them was called avionics munitions, and that had something to do with the care and feeding of the bombs they put on planes, that didn't sound very attractive. The other was, he prefaced it, he says well, it's not very popular because you have to go back to school. I said what is it, military school? He says no, no, University. I said well what is it? He says we need weather forecasters. Weather forecasters? Up until that time I wasn't even aware that you could go to school and learn something like weather forecasting, I had absolutely no interest in it, but I had more interest in it than I did in the bomb thing.

So I said okay let's go with the weather forecasting business, and they said okay, we can get you into a class I think it was just before Thanksgiving, so I did that, I went to class, I got commissioned as officer, and then shortly after that you get assigned to a school to go someplace. I ended up going to Penn State. It's a one year course and I remember the first... Penn State was on the quarter system at that time, the first quarter one of the courses in meteorology was taught, this is for Air Force people, was taught out of the Golden Book of Weather. Which were these little small books, and it just had the very basics, this is a front, you

know, this is what the atmosphere is made of and all the rest of it, and I'm saying, what did I get myself into here? But then again I wasn't fooling with those bombs.

The second quarter we had courses in dynamics, how the atmosphere works, what's the mathematical underpinnings of that, and I had great teachers and I saw equations that I'd run across in physics, classical physics, that had to do mainly with electricity, magnetic fields and things like that, which I did not have any feel for. But these guys are showing me weather maps with the same equations, the same mathematics, and they got me. That was interesting stuff. So I enjoyed the rest of the year. I can't say that I really loved forecasting weather, it's a thankless task. Nobody remembers the good ones you make and so forth.

I actually spent five years in the military, because Vietnam was going on at that time. After I got out I wanted to go back to grad school, I applied to Penn State, that was interesting. I had actually had an application in to UCLA because I was young and I wanted to go to California, you know, I thought that would be cool. But I had to ask somebody at Penn State to give me a recommendation and I had got to know Hans Panofsky who was there at that time, so I wrote Panofsky and said can you give me a recommendation, he said sure I can, but I have some money, I can give you a half-time research Fellowship if you come to Penn State. That was no contest. So I ended up going to Penn State, got my Master's degree and had started a PhD program but didn't finish it for one reason or another, and then wasn't sure what I wanted to do exactly. I ended up working in the private industry for a while doing air pollution monitoring and that kind of thing, and then a position opened up at NOAA that had to do with processing data from field experiments. That appealed to me because it was all about trying to explain and understand what the turbulent boundary layer looks like.

So I took that job, and I did that for oh, let's see, about five or six years. The organization I belonged to at the time is called the Center for Environmental Data Design, and they got dissolved. So I am sitting in this organization and they change their focus, they're called the Center for Environmental Assessment Services. What they were in the business of doing is looking at weather events and trying to assess what the impact was on the economy and agriculture and all the rest of that. As part of that they had to start looking at climate data sets and also it was about that time that NOAA was thinking about starting a climate program. I knew almost nothing about climate, I had one course in climate and that was it. But I knew data, and they needed somebody to put together this, they called it an inventory, just a list of what data were available, who had it, how was it stored, was it magnetic tape, punchcards at the time, it was all of that stuff, and then catalog all of that. So I ended up putting that together and about that time the Climate Analysis Center started.

**SM:** So what year would that have been?

**CR:** That would have been, I think the Climate Analysis Center started on paper 1978, 1979, my involvement with the data that was '79 and '80, and in '81 I went over there. But I still knew almost nothing about the climate system, but the head of what they called the analysis, no, the diagnostics branch, that had been my boss when I was doing the boundary layer stuff, once again I had in this case not written but called him, and I said I'm thinking about applying for this other job, which had to do with statistics and things, and he says well fine, I'll write you a

recommendation, but I have an opening at the Climate Analysis Center. And I said gee, I don't know anything about climate, I've got the one course, and he said oh, you'll learn it. So I went, my first year there they used to have monthly briefings where the people that really knew what was going on would talk there, and I picked it up. They finally said well, you've got to do something at the Climate Analysis Center, and at that time the people that had gotten there earlier, '79, '80, this was '81-'82, they had picked all the good topics. They were looking at atmospheric circulation they were in the heart of understanding the El Nino and how that worked, and a number of other things.

So I had a pick of what was left, and what was left is that one of the things the Climate Analysis Center had to do was to take the pulse of the global climate in real time as it was unfolding. So it was a matter of putting data sets together, the historical data sets together, and then finding out how you could update that as things were going on, and then what kind of analysis should you perform. So I got to do that with temperature, which was boring, it was looking at global temperature, you know. Rainfall, sea ice, snow cover, and later on actually a vegetation index.

So I started just dabbling in those kinds of things and I got pointed into cooperative work with some people at Asheville, at the National Climatic Data Center, to look at the historical record of temperature variability from the 1930s up to that time. So I was doing those kinds of things and somewhere in the middle of one of those--and I was also doing stuff with sea ice and snow--we had a visitor. Harry Van Loon, who was at NCAR at the time I guess, he came and then he was just going around to all these young scientists, what are you doing and all that, and I was going to show him my latest temperature stuff that I was a little excited about. But on the wall of my office I had a time series of the Arctic and Antarctic sea ice. Just graphs and showing them by months, by season and different ways, also plotted maps. So I'm showing Harry this temperature and that temperature and he's looking over my shoulder, and he says "what's that?" And I told him, and he said, you know, I've never seen that before. And I said, well, yeah, but all I did was... He said no, you need to write that up. So my first paper in climate was on sea ice. And it was based on data, let's see it seems to me it was like 1976 to '81 or '82, it was 5, 6 years worth of data, and I just plotted out what the mean extent of ice was by season and all the rest of that. This was before the satellites were able to do a decent job on that.

So all of a sudden I'm writing papers in climate, that was cool, I had fun. It turned out I never did anything more with that. Because in the early '80s NASA was very active in developing new instrumentation, microwave sensors to look at the ice globally from space and at much higher resolution than I could ever do that, I looked at that and said those guys are going to take the ball and run with it. But in the meantime, this business of every month putting data together, we got the data, mainly the monthly data from the GTS, that was WMO had essentially a teletype system, and there were international agreements that every month by the fifth of the month a monthly summary of the temperature and precip, I believe that was it, from a number of stations, it was somewhere in the order of globally about 1200.

So I had been putting together historical data sets and the real-time data sets and one of the things you find out when you do that is historical data sets and stuff that was coming in did not overlap. So I was always bugging the people in Asheville for data. At that time, see, this is giving me the opportunity to tell old war stories, at that time I remember calling down to

Asheville and saying, look, I got this job to take care of the global things, I need the climatological records for stations outside the US. In particular we had very little data from South America, very little from China, Africa and so forth. So I said, can you help me out? And the reason I went to them is that NCDC was World Data Center A, that means that they put the stuff together for the WMO, and they had a contract to do this every 10 years, to update it. Anyway I called and I told them what I needed and whoever I talked to of course wouldn't say such a thing today, but back then he said I'm sorry, he says, we're the National Climatic Data Service. Our primary job is to worry about the national climate and this other stuff we do when we sort of run out of things to do here. So I said well, they're not going to help.

By hook or by crook, with a lot of help from NCAR, Roy Jenne at NCAR at the time, I put together historical data sets that overlapped more closely with what we were getting in real time. At that time my boss said, you know we've figured a lot out about the El Niño Southern Oscillation but we need somebody to document how that is felt in teleconnections in temperature and rainfall, and since all the good stuff was taken care of he asked whether I would do that.

That was the best thing that ever happened to me. I made a career out of just doing that, and had a great time, but the thing I didn't realize until years later is that there was this period from I would say probably the late '70s and maybe even as late as the early '90s that was just a golden period in climate, because everything you did, it was new. It was for the first time, and you didn't have to be brilliant, you just had to stick at the job, and do it, and it was fun. It was just a lot of fun.

It's still a lot of fun. It got to be less fun for me when we learned enough about the climate system that the modelers could model it, and they've sort of taken over the whole thing now, and that was not quite where my interest was. But it was just such a great time and I didn't again until fairly recently appreciate just how lucky I was, and my colleagues where we just really had fun doing what we were doing, we were learning new things and we were also well supported. That's about it.

**SM:** That's great. Can I just ask when you got involved with the AMS first, when you became a member?

**CR:** Oh, sure. Actually I was thinking about that, you look through the old Bulletins, I remember getting a Bulletin and on the cover of the Bulletin was something called a FLIP ship from BOMEX [<https://journals.ametsoc.org/toc/bams/50/6>]. I think it was actually pre-BOMEX. That was a ship that had a long skinny part of it and they flooded it and it would flip upside down, and it stuck up in the air and they had a sensor. I never heard very much about it after that, but I guess the point is that I'm pretty sure I was a member at that time, I want to say it was probably '66, '67. And why did I do that? It was because at that time I'd finally realized I wanted to do this as a career, and this would be a good time to find out what the community is doing, and professional societies are one way to do that. That was good. I was in the Air Force at that time. I can't remember who I got, you had to have sponsors, and I forget how I did that. You were called a professional member, and after I got out of the Air Force I went back to grad school, so I was a student, and I went and I asked whether I could become a student member, because it was a lot cheaper to be a student member, which wasn't a request that they normally got, I guess. So I

was a student member for about three years and then I had another request, can I be a professional. I may have had to get sponsors again, I don't know. But it was certainly late '60s.

Let's see, in the Air Force I think there was one meeting in Boston while I was there, I was stationed just outside of Boston, but I didn't start going to AMS meetings until the '70s. When I was doing a lot of this data stuff in the boundary layer, that was a tropical met crowd pretty much. I would go to their annual meetings, I don't think they met every year actually, and the annual meetings. I just got involved. It was kind of a fun thing to do, and here we are.

**SM:** Yeah, that's great. I think you might be the only one to have been a professional member before you were a student member.

**CR:** [laughter] It was a funny time. And now I guess I'm a retired member, which is helpful, coming to meetings like this. Can you tell me what other kind of historical activities are being planned now?

**SM:** Sure, so we have some that have been actually finished and some that are underway for the coming year, one of the things that we have finished is digitizing all of BAMS, we have the full hundred years now on the Journals website. Everything from ads, articles, council minutes...

**CR:** That's good, because the first digitized ones left stuff out, I can't remember what, but.

**SM:** Yeah, they left out a lot of the Society business part of the Bulletin, which as assistant librarian I get a lot of requests for that material, because people want to know when did the AMS make this decision, when did this happen. That kind of stuff is in BAMS, which is now online, which is great. We have a sort of evolving timeline which the first version of it is up now with one milestone for each hundred years of the AMS, one every year from 1920 to 2018, and we'll be adding to that as the year goes on. We're planning also to get the conference preprint tables of contents online, because there's no way currently to access those. AMS doesn't own the copyright to the preprint papers themselves but tables of contents we can put up, so that people can browse them and learn at least what's in them and know to ask us for the full version. And we're trying to put together histories of how the conferences have developed.

**CR:** Oh, that would be interesting. I wonder whether this is relevant, but what happened in the climate arena with meetings is that in 1976 I believe it was, they were talking about putting together this national climate program and one of the questions was what do we know about climate now? And the NOAA folks said we know what to do, we'll hold a workshop! So they had a workshop, it was a couple of days and they came up with lots of suggestions including well, we should do this every year, right. And I got involved in those, I actually organized those for several years, but in the early years what happened was they were workshops, it was all volunteers things, and you'd call up someone and say we're going to meet... Well, we'd try to have these meetings at colleges and universities, because we were trying to get students interested, no one was studying climate back then, and so we'd call up people we knew and say do you think you could sponsor a thing, we need a room that will hold 20-30 people, whatever it was, eventually became a hundred people. So we'd find people that would do that, no charge.

We'd have the meeting, if there was coffee and donuts at the meeting there was also a coffee can where you threw your buck in, and we didn't have after dinner speakers. It was none of that.

But we reached some critical mass after about somewhere between 10 and 15 years. I'm stopping because I think it was about 10 years. The tenth year, for the first time we had as a cosponsor a private company, it was called ERT, and the contact at ERT with Rick Rosen. So it was held up in Boston, actually it was in Cambridge, and Rick said okay we can do this, we can get a room at the Sheraton Commander I guess it was, and we can provide refreshments, but we're going to have to charge a registration fee. So we went back and forth, there was a lot of consternation, we never had a registration fee, but we did and that was the first registration fee. Years later, Rick and I used to have conversations, he had moved on by then, on whether it made sense to try to integrate those workshops with the AMS committees of one kind or another. At one time I was chair of the Climate Variations Committee, and we were saying well, we have Climate Variations every year and we have that one every year, maybe we can put them together. But we never could quite come to closure on how to do that.

The reason I started that was in the evolution of the annual meetings of the AMS, I'm wondering whether it was a certain kind thing to start off with a certain amount of informality that as time on it became more formal.

**SM:** I think so. The early issues of BAMS show that it was very informal, I think it was essentially in 1920 it was a group of friends and colleagues who got together and said we should have this Society, we should have meetings and so even into 60s and 70s. I think there is still a lot informality. To some degree some of the people that we've talked to have talked about that being still the case in some ways at the specialty conferences where it's less informal but it's still very congenial.

**CR:** I haven't been to a specialty conference in so long. Climate Variations, Variations and Change now I guess they call themselves, got linked to the annual meeting, so that was the end of that. These meetings have gotten to be huge, almost overwhelming. In my case, I remember coming to the first ones in the early '80s and hardly knowing anybody, knowing more names than people, and then going through, especially in the '90s and the early 2000s I knew everybody, and now it's back to where it is, I walk the halls here where there are fewer and fewer of my generation, most of us are retired and some of us aren't with us anymore, but it's interesting to see that evolution of things. I get the sense from watching, just looking around, that the youngsters, the 20 and 30 somethings still find it as a very congenial get-together.

**SM:** Well, thanks for coming to talk to us, and I hope you enjoy the rest of the conference.

**CR:** That's what I intend to do.