

Molly Graham: This begins an oral history interview with Mary Kicza on November 3, 2021, for the NOAA [National Oceanic and Atmospheric Administration] 50th Oral History Project. This is our second section. The interviewer is Molly Graham, and this is a remote interview with Mary in Woodbine, Maryland, and I'm in Scarborough, Maine. Last time we spoke, we really got up to your career at NOAA, so I'm wondering if you could just back up a couple of steps and describe that transition from NASA [National Aeronautics and Space Administration] to NOAA, how the position came up, and the steps you took.

Mary Kicza: Okay. Well, it's kind of an awkward – it was an awkward situation. There was a change in leadership at NASA, and the individual who was taking the lead had a different management style, and it wasn't one that I was comfortable with. So, I made the decision to consider other opportunities, and I actually looked at several at the National Institutes of Health. But at that time, one came open in NOAA, and the work in NOAA was closer to my background, particularly the aerospace element of my background, as opposed to just the management aspect of my background. So, I chose to go with NOAA, and I'm glad I did. It was a good move. I think it was obviously helpful to NOAA, but also helpful to NASA, as well.

MG: What do you mean, helpful to NASA?

MK: Well, at the time that I was transitioning into NOAA, there had been, I think, a rift between NOAA and NASA, and all the way up into the Department of Commerce, and it had to do with some missions that NASA was running that NOAA was relying upon. NASA had made a decision not to extend that mission because they had their priorities – their scientific priorities, and it had an impact on NOAA. So, there was some negativity there. Also, at the time, NOAA was heavily engaged in the NPOESS [National Polar-orbiting Operational Environmental Satellite System] program and the very beginning of the GOES-R [Geostationary Operational Environmental Satellite] program. That organizational construct was very different from the traditional organizational construct that had been the basis of the NOAA-NASA partnership for literally decades prior to that. So, I think there was some friction there, as well.

MG: You bring up NPOESS and GOES-R. Can you talk a little bit about both of those programs? And then what happened to NPOESS? Why didn't it happen to GOES?

MK: Well, NPOESS was several years ahead of GOES-R in terms of its development schedule. Both of the programs at the time that I was transitioning into NOAA were based on Total System Performance Requirements – contractual basis. It's called the TSPR. At that time, or in that timeframe, there had been a shift in acquisition strategy, particularly on the part of the Department of Defense [DOD], and they had moved away from the more traditional contracting strategies to a Total System Performance Strategy. NPOESS and GOES-R were both structured with a TSPR acquisition strategy. Again, at that time, they were some of the last ones to be structured in that way, and there had been a history of those contracts running into difficulties. NPOESS, at the time I was transitioning, was in serious trouble in terms of cost and schedule growth, and it had a very serious implication for the nation in terms of providing continuity of the operational satellite series in polar orbit. It was a really challenging time to come into that environment. I came in as the deputy AA [assistant administrator]. Greg Withee was the AA for NESDIS [National Environmental Satellite, Data, and Information Service] at the time, and he

had his hands full with both NPOESS – GOES-R was several years behind, and so it was a pretty challenging time. I was in the deputy AA job for about two years before I transitioned to AA. Greg retired. What I had done in – Greg was focused on NPOESS and dealing with the NPOESS problem, and he had asked me to focus on GOES-R. One of the first things I did was I called for an independent review of GOES-R, and it was a management approach that was very common in NASA, not so common in NOAA. There was a lot of angst. Some people just did not like the concept of being independently reviewed. As I had grown up in that environment, I found it to be very helpful, and so I worked with NOAA and with the Department of Commerce to establish a very experienced independent review team. They methodically reviewed the GOES-R program and provided recommendations. Not surprisingly, they were not fans of the TSPR contracting arrangement. Over a period of, I would say, at least a year, we worked within NOAA and within the Department of Commerce to restructure the GOES-R contracting strategy to be more traditional with the government having control over each of the key elements of the acquisition – so the spacecraft, the instruments, the ground system – as opposed to the TSPR approach, which gave one contractor complete control over the total system, and the government didn't have any say other than, "Here's our requirements; you ~~need~~ meet them." One of the major concerns that I had with GOES-R, and it was the same with NPOESS, but I was focused on GOES-R at the time, was really in the importance of sustaining the institutional core competencies within NOAA. I was very concerned that scientifically, the algorithm development that NESDIS STAR [Center for Satellite Applications and Research] had been engaged in for decades was being ceded to the contractor, and they were going to be developing the scientific algorithms for GOES-R. It takes decades to establish competency; it doesn't take very long at all to lose a competency. So I was really concerned that by going the TSPR route, NOAA NESDIS, in particular, was going to lose its core competency scientifically as well as programmatically, but scientifically was more critical in my mind. So, with the restructure of GOES-R back to a more traditional arrangement, the role of NESDIS STAR and the scientists in developing the algorithm packages for the GOES-R series was reinstated, and that institutional competency could be maintained. With GOES-R, though, we did go a little different route; we didn't go do what we had traditionally done with NASA in the past, where we asked NASA to manage it; we just sent them money. In this case, we retained the management responsibility for GOES-R, and that was challenging in terms of negotiating that with NASA, who wanted to have their old role back. But we worked through it, and we established a management plan that both agencies could agree to and support. I think you see the result in what has been provided in the GOES-R series. It was a really tough challenge to move this battleship that had been pointed in one direction into another direction. It took a lot of work with NOAA, with NASA, with the Department of Commerce, and with Congress to get agreement to move this ship. But we did, and as I said, I think both NOAA and NASA benefited from that. After we did GOES-R, now Greg had retired, and we had the challenge of now looking at NPOESS because NPOESS, at that time, was still TSPR, and so I brought that independent review team into the NPOESS arena, again working with NOAA and working with Commerce, and had them take a look at that. The recommendation that came back from them was this approach is not working. So, we restructured NPOESS and created the JPSS [Joint Polar Satellite System] program and again went to more traditional hands-on government management of the contracts. In this case, we relied more heavily on NASA with the ground system and created the construct, where we had a program office, the JPSS NOAA program office co-located at NASA, with NASA doing the flight elements, NASA doing the ground elements until we had launched the first mission, and

then transitioning the ground elements over. So, again, it was a little bit of a power struggle to reestablish the controls and the government structure between NOAA and NASA, but that's what we did. Now you see the JPSS series. So, tough times, really challenging times, all the way up the chain, but I think that, in the long run, it was the right thing to do. I think there are some negatives that happened as a result of it, as well. But I think for NOAA and for the nation's polar weather satellites, the JPSS program being instituted I think was valuable and manageable.

MG: I have a number of follow-up questions. Who performed the independent review? Was it the same team for both GOES and NPOESS?

MK: The leader was the same leader; it was Tom Young. Tom was a very, very seasoned aerospace professional. He had been the center director at NASA Goddard at one point, but he was also the head of Lockheed Martin. He's worked really heavily both in the civil and the defense industries. So, he's a very pragmatic, no-nonsense type of a guy that I had worked with multiple times in NASA, and so I had contacted him and asked him if he would be willing to lead a team. The team included aerospace professionals, managers from NASA and from – excuse me, from the aerospace industry and from DOD contractor capability, both leaders who had served in the military or served in the federal government, as well as scientists.

MG: What does this process look like? What materials need to be reviewed? Are folks interviewed? How would they perform the review?

MK: Typically, they would come in several times during the course of the development, and they would review the progress that was being made, and they would offer recommendations back to the government in terms of what was working, what was not, and mitigation strategies that might be employed. So, they weren't decision-makers; they were reviewers, and they offered recommendations back to the government. It was an independent look at the program. In NASA, this is very, very common, and they call it a standing review board. They typically start at the beginning of the program, and they will go all the way through to the end of the program, keep track of how the program is progressing, and offer insights. They will bring in specific technical expertise when needed. It's a pretty common approach for civil spacecraft development.

MG: Did you have to convince the assistant administrator to give you the time and resources for the review?

MK: Yes, I discussed it with – not just with Greg Withee, but with NOAA leadership, as well, and with the Department of Commerce. Now when that independent review team briefed out, they briefed out all the way up the chain, so they briefed the AA of NESDIS, they briefed the administrator of NOAA, they typically briefed either the Department of Commerce, the Secretary and the Deputy Secretary of Commerce, and there were hearings, Congressional hearings, where they were asked to brief because the program was so large and so important to the nation.

MG: This is all while you're fairly new to the agency. Can you talk a little bit about that dynamic? You were still getting to know the agency.

MK: Yes. Coming into NOAA was a culture shock for me because, as you know, NOAA's a very diverse organization. The line organizations are very disparate, and the satellite organization with NOAA is a service organization; it's not an entity unto itself. Their existence is to support the requirements of the other line offices. It's very different in NASA. Also, the management construct was very different in many ways. NASA is an agency that doesn't have a department above it, so it deals directly with OMB [Office of Management and Budget], and it interfaces directly with Congress. That's not so in NOAA. NOAA is an agency under a department, and so for me, it was like having to go through two headquarters to explain the requirements and the budget. Typically, where I was used to dealing one-on-one with my counterparts in OMB, here it was, you had to go through multiple gates to have a dialogue with OMB. It was a much more challenging management environment than what I was used to in NASA. The management structure was very different. At NASA, you have a headquarters with an associate administrator and program executives, and the organization at NASA headquarters funds field centers to do the work, and field centers have center directors, and so they're responsible for the implementation of whatever programs come to the centers. In NOAA, the line organization has responsibility all the way down to the working troops on the ground. The management structure, where in NOAA I had a two-billion-dollar program and eight hundred to a thousand civil servants that I had to be responsible for, is not the way it's done in NASA. In NASA, you're an AA with program executives, and you have the budget, the implementation, and the care and feeding of all the employees at the field centers is not your responsibility. So, it's a much tougher job in NOAA, in both managing down, as well as managing up. A couple of things that I think I brought to NOAA other than the independent review process, which I believe is still in place today, is the Program Management Council [PMC] structure. I worked with the deputy administrator of NOAA, Jack – General Jack Kelly. I worked with Jack Kelly and said, look, in NASA, even at the deputy – at your level at NASA on a monthly schedule, your major programs are getting reviewed. And it's the Program Management Council, and here's who sits at the table at the Program Management Council. So, I proposed to Jack that he consider a Program Management Council that would allow regular insight into how these major NOAA programs – GOES-R, JPSS – were progressing. So, PMC was instituted as a result of my dialogue with Jack Kelly. We brought NASA to the table at our PMCs. We brought the key users of the program, so Jack Hayes would be at the table, and obviously, the budget people would be at the table. Everybody that had a stake in seeing the success of these programs was at that monthly Program Management Council.

MG: Was there someone in particular who was your ambassador to this organizational structure, getting you to understand the culture and hierarchy of these things? Or did you figure it out by trial and error?

MK: Well, I think obviously Greg Withee was great at bringing me on board and helping me understand the organizational construct. Then, as I progressed, the folks that were in my organization who had been through this so many times and knew the organization and the processes were hugely helpful. Charlie Baker was my deputy for many years; he was wonderful and helped me learn both the culture, the processes, the whys. The people that I worked for and the people that I worked with were the ones that helped me acclimate to the NOAA environment. One thing that I did gain in the transition from NASA to NOAA was a much, much better

realization of how critical NOAA's mission is. NASA's very insular, and you're in a NASA bubble. You know that NASA's the greatest because they explore. NOAA, although not as well-known as NASA, has a huge, huge impact every day on the American public. So, I really was quickly able to embrace the NOAA mission and saw how valuable it was and how important it was to be contributing to that mission.

MG: Can you summarize the recommendations that this review of GOES-R made and the steps you were following?

MK: Sure. They recommended restructuring the program and going to a more traditional acquisition approach. They did recommend de-scoping. There was one instrument that was a little too much too soon, so they recommended pulling off one of the major instruments. Those were the most key recommendations. They were very, very concerned about – for both NPOESS, JPSS, and for GOES-R – making sure that there was operational continuity. Again, one of the huge recommendations that wasn't, I think, well-appreciated was to maintain the competency of your scientific cadre.

MG: Something you mentioned a couple of times was NESDIS STAR. Can you say what that was?

MK: It's the science organization within NESDIS. It's Science, Technology, and Applications Research. They are the team members who develop the scientific algorithms. They're heavily involved in calibration and validation of the instruments when they're on orbit and providing the long-term monitoring of that cal/val process.

MG: How long did this process take – the review and the restructuring, ultimately?

MK: Years. It took years for both of them. Probably at least two years to restructure GOES-R, probably at least three years for JPSS, because we went through an iteration of NPOESS, restructuring NPOESS, and reducing the complement that NOAA was going to be responsible for because of the cost growth. Then the restructure from the revised NPOESS into the JPSS.

MG: Something that you alluded to earlier that I want to understand a little bit was the concern for a gap in data because of the NPOESS issues.

MK: Sure.

MG: Can you clarify what you mean by that and what the real-world applications were?

MK: At the time, we had the POES system, P-O-E-S, Polar Operational Environmental Satellite System. The POES satellites were getting older, and as they get older, their instrument functions degrade, so your observational capability and the inputs into the National Weather Service models become degraded. The next mission that was planned as the forerunner of NPOESS was the NPP [National Polar-orbiting Partnership] satellite – it's now called Suomi NPP. It was delayed by years. So, there was a concern that the on-orbit satellites would degrade to a point

where it would impact the weather modeling capability, and we wouldn't have the new capability on orbit to fill the gap.

MG: You explained how the JPSS program office started. Can you just say a little bit about its role and mission and what it's done since it began?

MK: Sure. So the JPSS program restructured all the contracts, so it untangled the NPOESS contractual TSPR structure and went out with separate contracts for instrument development, spacecraft development, and for ground development. There was a NOAA program office that was put in place to overall program manage the flight and the ground elements. We had a flight program manager who was a NASA person. So, there was ~~an NPOESS~~ a JPSS program manager who was NOAA – that was Harry Cikanek; he came in. We had a flight project manager who managed the satellite acquisition and the Internet acquisitions; that was Preston Burch, a longtime NASA manager. Then we had a ground system that was managed initially by NASA, and that was a NASA project manager. We put NOAA deputies underneath to let them understand and be able to transition. Then about a year or so after the JPSS-1 launch, the contracts for the ground system transitioned from NASA into NOAA. So, now there's a NOAA manager. I think it's Heather Kilcoyne [who] manages the ground system now at NOAA. So, they have all the contractual responsibilities for that, as well.

MG: In 2007, you took over as AA of NESDIS.

MK: Right.

MG: Where in this process that we've been discussing so far today were things at that point?

MK: Oh, my goodness. We were transitioning GOES-R to the more traditional management structure, and NPOESS was still NPOESS. We were still challenged with the cost and schedule growth that we were seeing in NPOESS. The NPOESS construct was very different and challenging. NOAA had the overall program responsibility, but the costs were shared between NOAA and the Department of Defense. The plan was for two tracks of satellites, one that would go in the afternoon orbit, which was the traditional NOAA orbit, and one that would go in the early morning orbit, which was traditionally the DOD orbit. So it was a fifty/fifty split of costs. Obviously, the DOD has a much larger budget than NOAA, and so when the cost growth hit, all of NOAA was impacted when we had increased the cost to keep the satellites on track. It wasn't so for DOD; they had much deeper pockets. The DOD management approach was much different than the NOAA management approach. I will say the NOAA/NASA management approach. They tended to plan with very little reserves because they knew they could go back and get more reserves outside of their program, whereas in the NOAA/NASA construct, no, you planned with the reserves you needed from the get-go, and then when you needed them, you drew on them and you didn't impact other programs. So, the transition from NPOESS to the JPSS structure sort of reset and put in a more traditional development schedule and budget with reserves schedule that the NOAA/NASA team had been used to working with. So, that happened, gosh, in the 2009 timeframe? I forget the exact dates, but it was a couple of years afterward.

MG: What else were you working on during these years? What other priorities and duties did you have?

MK: Well, we were also trying to maintain a space weather capability. At the time, NOAA had traditionally relied upon NASA for its space weather capability. The SOHO [Solar and Heliospheric Observatory] mission, which was an international NASA European mission, was where NOAA was getting a lot of its space weather data. That was getting old and less reliable, and so knowing that NOAA had space weather responsibility, we were advocating for what was then the DSCOVR [Deep Space Climate Observatory] program. DSCOVR was taking advantage of a spacecraft that NASA had built and warehoused because they lost the funding for it, so it was sitting in a warehouse. That mission had planned to continue a space weather function as well as an Earth monitoring function, so NOAA worked with NASA to propose taking that spacecraft out of the warehouse, refurbishing it, and flying it to continue the space weather function. So, that was the DSCOVR mission. We were able to get that supported, and it's on-orbit now. The follow-on to that is called SWFO, the Space Weather Follow-On, and that's something that NOAA is working on now.

MG: And when was DISCOVER launched?

MK: You'd have to look it up. I don't recall. I think it launched after I retired, but not long after I retired if I recall.

MG: The other thing I have in my notes is that you were working on – I have “led the effort to prioritize US research on the International Space Station.”

MK: Space Station. That was when I was with NASA, so that was in my NASA time.

MG: You mentioned international coordination, and I have in my notes something about EUMETSAT [European Organisation for the Exploitation of Meteorological Satellites]. What was that?

MK: EUMETSAT. So actually again, I was surprised at the level of international coordination that NOAA was engaged in compared to my NASA work. NOAA has a very long-standing relationship with the European counterpart to NOAA. In terms of spacecraft development, that responsibility lies with EUMETSAT. EUMETSAT is located in Darmstadt, Germany. Just as NOAA does, they fly polar satellites and geostationary satellites, and we share the data. We pull in the data from Europe's satellites; Europe pulls in the data from our satellites. Both of those feed the weather models that the Europeans have and that the USA has. So, we have a longstanding working relationship with EUMETSAT. The other thing that NOAA was heavily engaged in was CEOS, the Committee [on] Earth [Observation] Satellites. That is a consortium of all the countries who have space programs and who want to coordinate their space efforts because developing assets for space is very expensive, and no one country can do it all. So, if we coordinate who's going to do what, and share the data, then everybody benefits. NOAA has had a very longstanding position as a member of the Committee [on] Earth [Observation] Satellites, and so I was heavily involved in that when I was both deputy AA and AA.

MG: What does involvement in that look like? Is it attending meetings and writing reports?

MK: It was basically deciding actions that would be taken collectively and then keep holding each other accountable for that. So, it would be if one agency was going to be progressing on a particular satellite and needed to share data with another agency, identifying the timeline for that sharing and the process for doing it, working within the construct of the CEOS. So there were, I believe – I think there were twenty-six agencies involved. It also was mentoring countries who were relatively new in the space program. So for example, South Africa was just getting its feet on the ground in terms of having any kind of a space program and allowing them to learn from the more experienced countries who had developed space programs, allowing them, with their limited resources, to contribute – contribute ground capability in pulling in data, and then be able to use that data to help train their next generation of scientists and engineers.

MG: Did you ever have opportunities to travel to some of these places to do the training in person?

MK: I traveled for the coordination meetings. I didn't do the actual training, but in terms of mentoring, yes. And it was a lot of travel. I traveled to Cape Town, South Africa, I traveled to Japan, I traveled to China, I traveled to Brazil. Yeah, it was, again, a lot more travel internationally with NOAA than I had had the opportunity to do so in NASA.

MG: Was it because of these international coordination efforts that you traveled?

MK: Yes. Yes, very much so.

MG: What was that like for you personally, all the travel?

MK: It's funny. When you're on the outside and you think about all these trips, you think, "How fun. It'd be so fun to go to Rio de Janeiro." The fact of the matter is, when you're there, you are working, and it's long days and long hours, and you generally don't have much time to go out and see the sights. You fly in, you're exhausted, you have a day of meetings, and you fly out the next day. So, while I traveled to all those places, I didn't see a lot in those places because I was generally working. It was challenging because whenever you [travel] – you know this; I'm sure you've traveled – your work back at home is still there, and so you get back, and you kind of have to catch up on the work that you traditionally would be doing on the home front. For me, I also had young children at the time, and so traveling also meant I was away from home, and that was hard on my kids and hard on me. I loved the opportunity. I appreciated more than the travel, the people and getting to know and become colleagues with so many people from all over the world. That was special. So yes, I enjoyed it. I didn't enjoy the logistics of the travel, but I enjoyed the opportunity for meeting people and growing our programs together.

MG: Do you have favorite places that you'd want to return to at some point?

MK: Thailand. We had meetings in Phuket, Thailand. I really want to take my kids back there and let them see Thailand because it's beautiful. I had the opportunity to travel to China; that was pretty special. Those are opportunities that don't come along very often.

MG: Can I ask you to reflect a little bit on how your career evolved? You really rose high in the ranks at NOAA very quickly. What was it like to be AA of NESDIS? And maybe summarize your tenure there.

MK: For me, it's all about the people. Well, I say it's all about the people and the mission. I really enjoyed working with all the people at NESDIS. They are good people. They are so committed to the NOAA mission, and they each had their own stories about why they were where they were, and they were all excellent stories and excellent reasons for being where they were. So, that's probably the thing that I most appreciated about being the AA of NESDIS. It was the hardest job I ever had to do because of much of the challenges with the spacecraft that we were dealing with at the time and the challenge that NOAA has working as an agency within a department. So, it's a really challenging environment, but the importance of the mission made that challenge worth it. I loved my time at NOAA. It was a hard job, but I hope that I did well for NOAA and NASA by helping move these ships back to where they could succeed. I wish I could've done more for the people. There are folks that I really wanted to see grow, and because of the challenges that NOAA had at the time, in particular for SES [senior executive service] positions, I tried really hard to get some people that I felt deserved, to move into the SES ranks to get them there, and I just couldn't do it in the time I had. So, that's one of the regrets I have is that some of the folks that I knew were ready to move up had to wait. That's probably one of the regrets I have.

MG: Can you say a little bit more about that? I've heard about SES, but how does one become a senior executive?

MK: Well, each agency has a certain number of slots for Senior Executive Service. In order to become a senior executive, there are experiences that you have to have. You have to demonstrate that you've had these experiences. There's qualifications that are required for Senior Executive Service. Typically, it has to do with the level of responsibility, the number of people that need to be managed, and the visibility of the programs that are involved. There are aspects of it that you have to accept when you're in the Senior Executive Service. You are expected to work what you work. There's no overtime. You just put in the hours that are required. I can tell working in NESDIS with operational satellites, it never ended. You were on call 24/7, 365 days a year. If a satellite crapped out, I would hear about it, and it seemed like it was always weekends and holidays that we would run into satellite problems. So, there are benefits to being a senior executive; there's a lot of drawbacks to being a senior executive. But it has to do with the level of responsibility that allows you to progress in the Senior Executive Service.

MG: And as a woman in a high-ranking position, were you also looking to support more women in the field and in the program?

MK: Absolutely. I, often, throughout my career, would mentor – actually, I mentored both men and women, and I brought in folks for senior executive career development programs. When I was at NASA, I think I had more opportunities for shadowing for women. When I was at NOAA, I brought in a couple of folks who actually were men, who were on the senior executive

career development program, so I brought them in for tours of duty in NOAA to give them more exposure to management opportunities, to working with other agencies, etc. I think that career development, mentoring, and also seeking diversity in our ranks is really important. When I was working within NESDIS, I tried to be very sensitive to woman participating on teams, to be sensitive to diversity on the teams.

MG: When I was preparing for our interview, I read that towards the end of your career with NESDIS, there seemed to be some more budgetary challenges, maybe due to the sequestration and the recession. Can you talk about how that might have reprioritized things towards the end of your time?

MK: NESDIS was fortunate. We had sequestration, we had continuing resolutions, and so we had to stay within our budgets. However, because we had the satellite programs and we had the issue of minding the gap, NESDIS fared better, again, than other line offices because we had to keep those satellites on schedule. The elements that tended to suffer were those elements that were not part of the satellite development areas. So traditionally, the ORF [Operations, Research, and Facilities] budgets within NESDIS didn't fare as well as the development budgets. That was just the trade you had to make because the satellites had to fly on time. So, those were the challenges that I felt most.

MG: Were you able to witness or be part of the launches of the satellites?

MK: I did. I was there for the NPP launch, and that was on the West Coast. I was there for some of the GOES launches. It was nice to see it launched. Now, I retired in 2014, so I was invited to the JPSS and GOES-R launches, but because of family concerns, I did not go. I think I did go to one of the GOES – maybe I did go to the GOES-R launch. But at any rate, yes, I've been to launches, and it's a very rewarding opportunity to see all of your hard work pay off.

MG: I read an interview where you talked about JPSS-2, which would be launching in 2021. Has that happened?

MK: No, JPSS-2 is now launching in 2022. Greg Mandt is the program manager for the JPSS program right now. I just actually talked to him about a week ago. So, things are progressing. I know NESDIS has its own budget challenges now. I think their budget is – I think they're being challenged to stay with a flat budget but manage the spacecraft developments under a flat budget. That's challenging, so I think Steve Volz has his work cut out for him. But I also think there are opportunities given how technology has progressed and how the commercial space industry has progressed. There are opportunities to do things differently. I think that with the advent of cloud capability and transitioning capability into the cloud that offers some opportunities for maybe less expensive ways to implement ground systems. So, I think there may be opportunities that have arisen in the last six, seven, eight years that present new ways of doing business for NESDIS, and I think that's pretty exciting.

MG: What else stands out to you about your time with NESDIS? Are there things that we haven't talked about yet?

MK: We talked about the travel, we talked about the people, and we talked about the importance of the mission. I think the other thing that stands out is climate activities. It was really rewarding to be involved in the National Climatic Data Center, NCDC, now the National Centers for Environmental Information, and to have that repository of information that's so valuable to the nation. Working with them – I can remember when I first came into NOAA NESDIS, and when I was first AA, we had one of our senior retreats down in Asheville, North Carolina. Tom Karl, who was the director of the NCDC at the time, gave us a briefing on climate and climate change and what we could expect to see as the climate was changing. I tell you, everything that he said, we're starting to see now; it's a lot earlier than we had hoped it would occur. But the extreme weather that we're seeing now, he was telling us about it over a decade ago, saying, "This is what's going to happen." So, the contribution that NOAA made, and in particular, the contribution that our NCEI team – then the NCDC team – made to the IPCC [Intergovernmental Panel on Climate Change] – that team was part of the Nobel award that was received – that was really rewarding, too, to know that so much of the work that NOAA was doing was so relevant to the challenges that we face, even more so today, in terms of climate change.

MG: What went into your decision to retire from NOAA in 2014?

MK: Oh, it was easy. My family. I had worked since my early twenties, and I had two daughters. One daughter was heading into high school, and one daughter was heading into middle school. I had been working forty-to-sixty-hour weeks their entire childhood. I was at an age where I could retire, and I wanted to be present for them in those very special years. So, I retired to be more present for my family. My kids were very, very athletic, and they were competing internationally, so I was able to be fully present for that. I had been to China a couple of times. My elder daughter competed in China at the world championships, and so I was taking kids all over Europe and Asia to compete. That's what they needed at the time, and so it was a really good decision. Since retiring, I've continued to be pretty active in consulting. I do quite a bit of work associated with both NASA and NOAA, which keeps me in contact with a lot of the people that I worked with over the years, which has been really fun.

MG: Which were the sports that your daughters were competing in?

MK: They were acrobatic gymnastics athletes. My older daughter was on the US national team for five or six years, competed in eight countries, and competed at two world championships. My younger daughter, who got pandemic'd, was scheduled to compete at the world championships in 2020, and the whole world championships got delayed until 2021, so she stuck it out. She was planning to compete at the world championships and then retire and have her senior year of high school be a real senior year of high school. That didn't happen, and she had another year of training for competition, and she competed this past June at the world championships in Switzerland. So, now they're both retired and in college.

MG: It must have been so exciting for you to watch those events and cheer them on.

MK: Oh, yes. They're pretty amazing kids, and they were very, very dedicated to their sport, and it gave them opportunities that are really special – a lot of very special memories.

MG: Can you say where they're in school now, and a little bit about how their lives have unfolded since?

MK: Yes. Caitlyn is a senior at the University of Tennessee [UT]. She's a biomedical engineering major, so she'll be graduating next spring. She is applying to medical schools. Hopefully, next fall, she'll be in medical school. She's completed all of her primary and secondary applications at this point, and we just have to see what happens. Jessie is a freshman at Clemson University, she's in bioengineering, and she's also an Air Force ROTC cadet, and she's in the honors program, so she is a busy girl. She was up at, let's see, 5:00 AM this morning; she had physical training, and she texted me that she ran three and a half miles this morning. Caitlyn, who is trying to get clinical experience for medical school, works two shifts a week at the University of Tennessee Medical Center, so she was up at 6:00 AM, heading into work.

MG: Can you say how you met your husband, Dale, your second husband?

MK: [laughter]

MG: Is he right there?

MK: Dale and I –

MG: Does he want to chime in?

MK: He probably will. It was – so we first met each other when I was in college. I think you had already graduated. Did he graduate? He was already graduated from college –

Dale Kephart: The previous year.

MK: – the previous year. We became biking partners. We were tandem biking partners. At the time, I was engaged to my first husband, and Dale actually was part of our wedding party. He was one of my husband's groomsmen. He actually kidnapped me from the reception, and the ransom was that my husband had to tell Dale where our hotel was for that night so he could raise havoc. So, fast forward thirty years, I had divorced, Dale had divorced some time previous to that, and we decided to re-engage, so we've been married for over a decade.

DK: You're missing out on all the good stuff.

MK: No, no.

DK: We did things as families. We did family vacations in the Tetons. We were in annual constant conversational contact.

MK: Yes.

DK: It was not a void for twenty years.

MK: No, no. It was thirty years, actually.

DK: Thirty years, whatever. Not a void.

MK: We had family vacations to Hawaii, family vacations to the Tetons, did a lot of hiking, and had fun together as families.

MG: Well, it's good to know that the families got along and that there was a –

MK: Right.

MG: – friendship and chemistry there.

MK: Yeah. So Dale's kids, my step kids – Timothy is living in Bangkok, Thailand, and teaching. Allison is living in Canberra, Australia, and she works for the State Department there. So, we have a lot of international kids. [laughter]

MG: Has the last two years been particularly tough on you having family members so far away?

MK: Yes, it has been. For the last two years, we've wanted to travel to Thailand to visit Tim, and the pandemic just isn't allowing that. So we're hoping that not this Christmas but next Christmas, we can go to Thailand. Allison has been in Australia for five years now, and she's ready to come back to the States, and she can't. So, that's been really hard. Jessie's whole senior year was basically done from home; that was kind of weird. For Caitlyn, actually, the pandemic and working virtually actually made it easier for her. She had more time to go out and work and get clinical experience. Although she still is challenged. She has to work on COVID floors at UT Med Center, and that's a little scary for her. She's had Covid – she contracted COVID – fortunately, it was a mild case. I have to bug her; she's eligible for the booster shot because she's continuing to work in the medical industry, and so hopefully, she'll get her booster shot soon.

MG: Yes, I was going to ask how you've been impacted in the last two years and how you've adjusted to this new normal.

MK: For Dale and I – we work from home, so it hasn't been hard for us. We've been very fortunate. The kids, obviously, have been impacted. I will say that it's still kind of shocking to me. I'm working on some NASA work right now, and one of my colleagues in the NASA work just passed away from COVID less than six weeks ago. We heard he had it, he was going into the hospital, and within two weeks, he had passed away. So, it's still very real in terms of the impacts. Fortunately, my family – my immediate family has not suffered too greatly. We are blessed in that respect.

MG: I'm so sorry to hear about your colleague.

MK: Yes.

MG: I'm curious if you could say just a little bit about your consulting business and your purview and scope of work.

MK: My business has focused largely on NOAA and NASA work. I work with contractors who support NOAA and NASA. In the NASA arena, I am very active in review of programs just like I talked about – independent review. I work in reviewing NASA programs. It allows me to draw on my expertise, having worked in them for thirty-five years. But it also allows me to keep in touch with folks that I've worked with, and it keeps me aware of what are the next missions that are coming down the pike for NASA, which is really fun. In the NOAA arena, a lot of it is making sure that the contractor support to NOAA is responsive to NOAA's needs, working with NOAA to lay out their communication strategies for the future. It's amazing how you can stay in touch with people. In my NASA work, I was shocked when I first started working in that arena, and I was working side by side with folks that I had worked with in the 1980s. They were still consulting. I was still able to remember missions we had worked on or meetings we had been in where we had fun together. So, I have enjoyed the consulting work. It's just enough to – Dale might say it's more than enough. It keeps me pretty busy. With the kids now in college, that's probably a good thing.

MG: Well, I've gotten to the end of my questions. That didn't take too long. But is there anything I'm missing or anything we've neglected to talk about?

MK: I don't think so. It's been quite an extensive interview. I hope it's helpful. I hope that the oral histories are valuable and provide lessons learned to folks that are coming after us.

MG: I think they will be. I always think if you're new to the agency, check out these oral histories so you'll understand a little bit of the institutional history.

MK: Yes.

MG: All right. Well, Mary, this has been so fun to get to know you in this way.

MK: Thanks, Molly.

MG: I really appreciate all the time you've spent with me. I'm just going to stop the recording, and I'll explain what happens next.

MK: Sounds good.

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