

17-2017 WY In Flight

BOGART: [00:00:00] OK. Today is Friday, February 17, 2017.

This is Barbara Bogart in Laramie, at the UW Atmospheric Research and Flight Center. And I'm talking with Brett Wadsworth, and Ed Sigel, and Brett Spiker, about their experiences at the Flight Center and whatever else they want to talk about having to do with aviation in Wyoming. OK. And I'm just going to let whoever wants to answer the questions, answer the question, but first question I start with usually is -- and I'll start with you -- how did you get interested in aviation to begin with?

WADSWORTH: It was kind of by accident. I was -- it was actually purely by accident. I was enlisted in the Navy, in the Navy nuclear power program at the time. And I was in Idaho Falls, Idaho, going through the prototype. And I'd been applying for a naval ROTC scholarship to go to school, get a commission, and go back in the Navy as a naval officer. [00:01:00] And I happened to be driving down the street with a friend of mine, and we -- the subject came up, "Hey, what do you want to do if you ever get a commission in the Navy?" I said, because I hadn't really thought too much about all the other options out

there, I said, "Well, I'll probably just go back into the nuclear power program," because I kind of had my blinders on, and I wasn't thinking outside the box a little bit. And I still thank him to this day for saying, "Boy, if it was me, I think I'd become a pilot." And I said, "The Navy has pilots?" (laughter) And that was the germ of it. And I grabbed onto that idea, and it grew, and it blossomed, and I never lost hold of it ever since. And so that was the beginning. And after that, I entered the military, Navy first of all, then I transitioned to the Marine Corps. Flew F-18s for the Marine Corps, and then flew a little bit of the King Airs for the Marine Corps, as I was getting promoted out of the good jobs into more administrative roles, and ended up by flying a little bit of a Citation Encore, [00:02:00] and then from there, retired from the Marine Corps and got this job out here. So that's how I started and got (overlapping dialogue; inaudible) here.

BOGART: And I should say, that is Brett Wadsworth speaking.
So, when did you take a job here?

WADSWORTH: That's coming up on nine years ago, so I started here in July of 2008.

BOGART: OK. And where are you from originally?

WADSWORTH: I'm from Oregon. Roseburg, Oregon, is where I was born and raised, grew up in that area, out in the gray,

chilly, but not terribly freezing, but wet environment of western Oregon. Beautiful area, but that's where I call my original home, in any case.

BOGART: OK. And so when you took the job here, is that the first time you'd been to Wyoming, then, or living in Wyoming?

WADSWORTH: No, in fact. Let's see here. The first time I came to Wyoming was when I was a kid, to travel to the Yellowstone, to the Yellowstone migrations -- almost like a pilgrimage or a *hajj*, so to speak. But [00:03:00] made it to Yellowstone when I was a kid, back when they still had bears going in and raiding the garbage pit up there, and we got to see that. But in any case, that was my first trip. I came to Wyoming also when I graduated high school in 1980. We were in the recession of the early '80s. Western Oregon is a lumber-based industry -- at least it was at the time -- and it was in a depression there in western Oregon. I've been told by my brother, the unemployment rate in the area was approximately 20 to 23 percent, because the lumber industry was so badly impacted. Young kid out of high school. Couldn't get a job. My brother was living in Powell, Wyoming, at the time. I took a trip out, brought him a washer and a dryer for him and his small family in my pickup, and spent some time out there looking for work,

trying to get work in the oil fields a little bit. But at that time, I was 18 years old, and you needed to be 19, I think because of the explosives that they had. So I couldn't get a job with them, either. So I got frustrated and went back to Oregon, enlisted in the Navy, and then go back to that little sequence.

BOGART: [00:04:00] All right. So we'll put Brett on pause for a moment, and we'll go to Ed Sigel. How did you get interested in aviation?

SIGEL: I was -- I've been interested in it since I was a little kid. Just, that was my favorite toy, was an airplane, and just wanted to fly airplanes. And it was kind of put up in front of me as a lure, an incentive, to be a better student when I was in high school. I started when I was in high school, and then moved on to an aviation college in Billings, Montana, Rocky Mountain College. And then from there, I went to -- flew a little bit of freight with Corporate Air, and some doctors with Corporate Air. Moved on to Big Sky Airlines, flew there for quite a few years, and then moved on to Air Wisconsin, based out of Denver. While I was based out of Denver, I moved to Wyoming, and I [00:05:00] commuted into Denver. And then after 9/11, got pretty well sick of the airlines. I think I spent another five, six years with the airlines. Decided

to quit completely and become a rancher, and I lived on my parents' ranch in Wyoming. Found these guys needed some help, started periodically filling in with them, and then after six, seven years, I became a full-time pilot here again. Been here for the last two years.

BOGART: OK. Let me -- I want to ask you a couple questions about that. You said you got disgusted with the airlines after 9/11? What was going on there?

SIGEL: They -- you know, it was a downturn in the industry, and they kind of used it as an excuse to take benefits, take pay, take -- make you [00:06:00] work your butt off for a lot less than you were. And then the last straw was, they started to get rid of our domiciles, you know. We had western domiciles, and I was going to have to commute to the east coast to work. And I had been doing it for a year, and it was -- they were -- I would commute home one day, and then have to commute back the next day. They were giving us two days off a week. So basically, you would have about 24 hours at home, and then -- so... This place, when I found out -- you know, these guys have some time off, a little bit of leisure time. The pay was decent, and I was more than happy to come here. And once I saw the way that things worked around here, it was a much more family-

oriented lifestyle than the airlines were [00:07:00] at that time.

BOGART: And are you from Wyoming originally?

SIGEL: I'm from Chicago.

BOGART: Oh, OK.

SIGEL: Yeah, so... I was born in Michigan, and lived in Arkansas, and lived in Michigan, and lived back in Chicago, and Montana. But yeah, I consider Chicago home.

BOGART: Oh, OK. So from there, then you went to Montana to go to Rocky Mountain? Is that right?

SIGEL: Yeah. Yeah. I found an aviation college. I was out fishing, and I found an aviation college in this book that my old man had. Searching through it, and it was Rocky Mountain College in Billings, Montana. He says, "We're driving through there." And like, in three hours later I'm standing on the curb with my fishing pole and my backpack, and I'm going to college. (laughter)

WADSWORTH: Hadn't been accepted yet, right? He was going to college whether he wanted to or not.

BOGART: That's a great story.

SIGEL: You guys got me. (laughs)

WADSWORTH: Either you're going to be a college student or a vagrant, one of the two. (laughter)

BOGART: Or a fly fisherman.

WADSWORTH: [00:08:00] That's right.

BOGART: Yeah. Oh, that's great. OK. Now it's your turn, Brett Spiker. How did you first get interested in aviation?

SPIKER: I kind of came upon it when I was a young kid. I grew up in Wheatland, Wyoming, so I used to -- we used to live out just east and north of the airport, so I used to ride my bike down and watch the airplanes go and take off. And as they did a lot of spraying of agriculture there, so they had spray planes, and, you know, it's a little, small airport. And I found myself, as time went on, I kept getting closer and closer. I started out at the highway, and then I just kept getting closer and closer. I got onto the tarmac, and then I'd get closer. And I got too close, and he put me to work. (laughter) So, you know, I was 14 years old [00:09:00] at the time, and then started -- as he was talking to me, he said, "You're really interested in airplanes." And I said, "Yes, I am." And he says, "You want a part-time job?" So from that part on, I just started making sure -- I would actually beat him to the airport, riding my bike in the dark so I could be close to those airplanes.

BOGART: Then that was the airport manager?

SPIKER: It was the spray outfit there. His name was Jerry [Wright?], was his name. Or Larry Wright. Larry Wright. And there was a guy, Jerry, in Torrington, that I knew. That's why I got confused. But yeah, it was Larry Wright. So, he just -- he was very nice, you know. Let me kind of work there, and it worked out pretty good. And at that point, growing up and then just needing some kind of part-time job, [00:10:00] I did that for a while. And I thought --

BOGART: OK. What kinds of things did you do for him?

SPIKER: Oh, it was -- he had big radial engines, so I'd go pull the prop through, and open up inspection panels, and started working on the -- I found myself work-- you see, now, I was mechanically inclined, so I started working on the pumps of -- for the spray, and I started mixing that. And then I'd put oil -- I would service the aircraft. And then a lot of it, I didn't understand what I was doing until I went to A&P school later. Oh, this makes complete sense to me now. (laughter) But it was kind of interesting. So he'd just repack wheel bearings, all the stuff that older mechanics do not like to do, (laughs) get the young guy to do that stuff.

BOGART: Now, what's A&P school?

SPIKER: Airframe and Powerplant. And so, yeah. So, it's interesting. I went away after high school. I thought I was supposed to go to college, so I started college, and I [00:11:00] struggled immensely with college. And my wife - - well, soon-to-be wife, encouraged me to go back to my dream, which was A&P. And fortunately, Cheyenne Aero Tech was around then. It's not there anymore. And so, through her encouragement, I went back in, and went and got my A&P license. And so from there, she was a schoolteacher, so we -- I had to move her away from Wyoming, so we went to -- from there, I went to the work on the south rim of the Grand Canyon for a touring company, Grand Canyon Airlines. And really enjoyed that, but at that point, we had a little daughter, and so, she got ill. And it scared us, because we were 70 miles away from a hospital. So, I started looking for other options, and found a job in Farmington, New Mexico, so I worked for Mesa Airlines as a [00:12:00] mechanic, and worked through their ranks up into an inspector job. And then from there, you just start, kind of -- it wasn't where we wanted to be. And always wanting to be out this way, we thought, oh, but there was -- didn't know much about what was going on. So we -- as far as Wyoming and aviation. It just seemed like it wasn't growing. So we left there and ended up in Eau Claire,

Wisconsin, and I worked for a company that took care of Menards' -- the home improvement chain's -- airplanes at night. And so, we lived there. And they started to wanting to do their own maintenance, and I was fearing for this small facility that I was working for, that that was going to be some kind of layoff. So, I started looking again, and I got a job (laughs) at Northwest Airlines. Well, in the process of getting this job at Northwest Airlines, we were just -- we had been signed up for -- it's called [00:13:00] an aviation jobs place. And so, they -- my wife was looking through, and she'd seen this one job in Wyoming, because I always wanted to be back here. And started looking at it, and she goes, this has all of your experience. And I looked at it, and sure enough, because she was a graduated of the University of Wyoming, we just... I applied for it, and got it, and I've been here since 1998.

BOGART: Oh, OK. So, you have seniority here.

SPIKER: I suppose. (laughs)

BOGART: In the facility.

SPIKER: Yeah, I've been here ever since, and it's just been -- it's been, as Ed put, it's been a wonderful job for growing families, doing very, very interesting work. It's just

been a wonderful job, and they've been incredible. It's been an incredible blessing.

BOGART: Oh, that's great. Now, as you're talking, [00:14:00] it occurs to me that I haven't asked each of you what your job is here. So --

SPIKER: Brett Spiker. I'm actually the chief aircraft mechanic, and I take care of the transportation aircraft that flies all of our university people, trustees and those things. And then the atmospheric side, which I'm also -- I have my inspection authorization, and we do modifications to the other King Air, and that's where my inspection authorization comes in for that.

BOGART: OK. OK. And Brett Wadsworth.

WADSWORTH: I'm the chief research pilot here at the university, the chief of a total of three of us. So small organization, but I'm in charge. Keep that in mind.
(laughter)

BOGART: OK. And Ed, you're the...?

SIGEL: I am a transportation pilot and research pilot.

BOGART: Oh, OK. So you do both roles, then.

SIGEL: Yep. Yeah, as well as he does.

BOGART: OK. So, this is the whole crew?

WADSWORTH: We have one other pilot, Tom Drew. [00:15:00]
He's out with our research aircraft in Boise, Idaho, right

now. He's finishing off the second half of a project, flying over the Payette Mountains of Idaho, trying to validate whether cloud seeding actually works.

BOGART: Oh, that's interesting.

WADSWORTH: Yeah. We're not doing the seeding. We just have the instruments to try to make sure and tell if the seeding is occurring by ground-based and airborne platforms, to see if that seeding's working and actually doing what they want to do, which is to increase the amount of snowfall out there on the mountains. And as a sidebar -- I'm not going to steal their thunder -- but it looks like it actually works.

BOGART: (laughter) OK. Well, that's good to know for whoever is interested. (laughter) And let's talk a little bit about the research function here, and then we'll talk about the transportation function afterwards. How does it all work? How many aircraft do you have? How -- what are the research projects? How does all that work?

WADSWORTH: Yeah. [00:16:00] We clearly have the one research aircraft, November-Two-Uniform- Whiskey. It's a King Air 200T, is what it's called. It is the third of the 200Ts that came off the line. What's the difference between a 200 and a 200T? A 200T was designed for the French, many years ago, by a Beechcraft organization,

because they wanted a maritime patrol aircraft with some extra fuel, so Beechcraft put some fuel tanks out on the wingtips, 50 gallons in each, so another -- about another hour of fuel. You get more range and time on station. Along with that, it also required a little heftier aircraft, a little more capable of carrying more weight, and so this aircraft had that ability to carry more weight. So Don Veal, who started this organization -- this organization carries his name on the front of the flight center, as well -- he engaged with Beechcraft for this aircraft. He financed it with a personal loan, through First Interstate Bank, I understand, many years ago, that he signed for. [00:17:00] Quite a guy, and we owe, you know, at this point, 50 years of history to him, 40 years with this aircraft. So King Air 200 BT-3, which was the original number on it, and we've had it here ever since. And that's our research aircraft. Been modified many, many times, under the supervision and execution of Brett Spiker, our chief aircraft mechanic. So it's a strange looking aircraft, a bit, because it's got funny stuff on its nose that look like large growths, and a thing that come out the front, that people say, what do you do with that thing? Spear other aircraft? (laughter) But it's a probe to detect motions of the air out there. And lots of other

instruments are hanging all over the place, which means it is very draggy. It means it goes slower than everything else of a 200-type aircraft. And it means we are going through icing conditions. You pick up a lot of ice over all those instruments, and it starts getting everybody very concerned about what's going on.

BOGART: So, are you saying that this is the original aircraft? Or you said this is the third one that the [00:18:00] research center has had?

WADSWORTH: It is the third one the research center has had. And we've got pictures on the walls around here. I believe -- [Spanky?], correct me if I'm wrong -- second one from the right was the first one?

SPIKER: Yep, yep. The C-17. And then the Queen Air --

WADSWORTH: Was the next one that the organization had. And then this one, which is the next picture down, although we have a different paint job now, but that is the current aircraft we have. So in terms of how it all works, this aircraft is part of the National Science Foundation Lower Atmospheric Observing Facilities observation pool. It's a small pool of aircraft across the countryside that are partly supported by the National Science Foundation. And those aircraft are available, essentially, to any US researcher, I believe, any scientist that has been looking

at an atmospheric characteristic for however many years, decades, whatever. And he puts in a proposal. Starts with us [00:19:00], talks with us through the department itself and through Al Rodi, who's the facility manager here. Engages with him about whether the platform is likely available, is the right platform for what he wants to do. That scientist will submit a proposal to it. We will take it. We'll review it. We'll go through our feasibility process, see, is this something we can support? Can the aircraft go where you want to go? Can we physically, you know, by interacting with the FAA or the international organization, if it's in some other country, with their version of the FAA -- can we achieve what they want to do with the rules and regulatory environment we have to work in? And then, as well, from the mechanic's side, and then from the engineering and technical support side, can we support the instruments that he's wanting on board the aircraft. If it's a different instrument, then that goes to Spanky and the engineering group. Can that thing be mounted safely on the aircraft? Can we provide the power? Can we provide the cooling? [00:20:00] All those kind of things to help that thing to operate effectively and gather the information that person wants. We provide that feedback to that gentleman or that lady, whoever it may be.

They put in their final proposal through the National Science Foundation assessing process, and they -- a group of scientists -- make the determination if it's good science, if it's a well thought out process by which they intend on doing the campaign, is what they call the proposed project, and if our aircraft is the right one for the proposal, and if they have the money to do that. And if so, they say they'll fund it. We'll put it on our schedule, and then we'll go full tilt into planning for it, and making all the phone calls and arrangements, the mechanical work, and then the engineering and support work necessary to get the equipment on the aircraft ready, to make sure we're able to go out and do the actual flying that they need to do.

BOGART: OK. So, the researchers approach you [00:21:00] first to kind of get the logistics of it out of the way, before they have their proposal -- they send it to NSF? Is that right?

WADSWORTH: Correct. Yes. Yeah.

BOGART: That's interesting. What's the percentage of actual jobs that you take on, versus the number that are proposed?

WADSWORTH: Oh, good question. There's a bunch that are -- of the proposals we receive and are denied later on. We generally -- when they come to us -- by the time they get

to us in a full proposal, we normally give them a thumb's up that we can achieve what they want to do, because there have been back channel discussions prior to the point they submit the paperwork to us. But I don't know. What do you think, Spanky?

SPIKER: (overlapping dialogue; inaudible) four to six a year is more typical.

WADSWORTH: In terms of proposals?

SPIKER: Yeah.

WADSWORTH: And we might get one to two of those actually approved, generally speaking. So, I don't know, 25 percent -- 25 to 50 percent, depending on the year. The success rate kind of cycles a little bit.

BOGART: But it sounds as if the cutoff [00:22:00] occurs at National Science Foundation and not you.

WADSWORTH: Yes.

BOGART: And you guys could pretty much do whatever these people want to.

WADSWORTH: Most of the time. I think that's because it kind of goes through that little bit of an iterative process before we actually see it here. And I mean, this aircraft's been around so long. And the researchers, they know each other, you know. It's not an enormous pool of people, you know, and they all correspond, and they've

interacted before, and done research on projects, and they've written papers together, so they know each other, and they have a good feel for what this aircraft can do, and what it represents to the community. So it's no big surprise, I think, that it's here, the capability it provides. And so, they have a pretty good awareness of what we can do for them, I think.

BOGART: How many other facilities are there around the country?

WADSWORTH: That do this airborne type of research?

BOGART: Mm-hmm.

WADSWORTH: Three others? Four others. There's SPEC down in Boulder, which is a private organization that has a [00:23:00] Learjet. There's the National Center for Atmospheric Research down in Boulder, which is a federal facility, operates a C-130, a Gulfstream GV. And then there's University of North Dakota that has a Citation jet that does it. Monterrey, US Navy, at the -- what's the navy facility that does that at Monterrey?

BOGART: (inaudible)

WADSWORTH: Slips my mind, but they have a small plane they do some of this work with. I just thought of a -- oh, NOAA, National Oceanic and Atmospheric Administration, certainly does a great degree of it.

BOGART: It's interesting. They're all in the western US.

WADSWORTH: Primarily, although NOAA operates aircraft out of Florida, I think. Of course, they do the hurricane penetrations, in conjunction with them and the Air Force, I believe. I think NOAA has some involvement in that. But I think that is the majority of [00:24:00] organizations here in the States that remain. I know University of Washington used to do some work like that, and probably other universities. I know we've talked to some of the researchers, and they talk about their previous experiences with some of the other aircraft [all the?] time, whether it's a small Cessna that somebody has jammed an instrument into and hangs something out the window, or if they've actually had it mounted in more formal manner other than duct tape, you know. (laughter) And we don't do any of that duct tape stuff, (laughter) right, Spanky?

SPIKER: That's correct.

BOGART: Well, if there's one thing I've learned in this project, is that there's a lot of seat of the pants, get her done kind of attitude, so...

WADSWORTH: Yeah. Not around here, certainly.

BOGART: (laughter) I get that. I get that. For sure. Well, let me ask you -- and then I will go on to everybody else, but, Brett, what -- tell me about one or two projects

you've been involved that were -- that stand out for whatever reason.

WADSWORTH: Well, [00:25:00], you know, most of those that have been away from Laramie seem to really come to mind most readily. I mean, the ones -- because we do some work here in Laramie. It's our own back -- it's our sandbox. We play here. Our own researchers on the sixth floor down at the university in the atmospheric science department, they'll have a small project that they have funded or have ready to go, and we respond to their needs when we have the ability to, and we'll go out and fly in a local area. Those aren't typically terribly memorable, but maybe it's just in conjunction with traveling. I enjoy traveling, and we've had the opportunity to go to Finland for [LP Vex?] with this aircraft. That was a memorable one. We were down in Martinique. That was fun, enjoyable, a lot of fun. Flying over the Great Lakes, looking at the lake effect snowstorms. That was memorable, probably primarily just because of the complexity of the airspace. There is 11 or 12 or 13 different controlling agencies we had to work with. As well, [00:26:00] we were concerned about the amount of ice we might be picking up in these lake -- huge lake effect storms. It just buries Watertown every winter. You know, another hundred inches of snow last night. We

expect another hundred inches tomorrow. OK, great. It's a lake effect snowstorm once again. And we didn't know quite what degree of icing we were going to experience. And the good news was, it was much less than anticipated, for whatever reasons. Summer of 2015, flying out of Great Bend, Kansas. No hits on Kansas, but I don't plan on going back to Great Bend to retire. (laughter) Sorry. Nice folks, but -- yeah. But [knew?] we were out looking at nighttime thunderstorms, and how these huge thunderstorms build up late in a day, and then sustain themselves for hours at night, even without the solar heating going on, and looking at this nighttime low-level jet of warm, moist air that's flowing up from the south, and feeding these things, and keeping them going. At least, that's the laym- - that's the knucklehead's perspective, speaking for myself, [00:27:00] (laughter) of what the science was they were looking at in terms of what was feeding these things. If you go back and talk to them, they'll probably tell, oh, that guy Wadsworth, he's entirely screwed up. He has no idea what was feeding these things, but we know the answer. But that was a little bit hair-raising, flying at these big, huge thunderstorms at night, when they are just lighting up from inside with lightning, just like a huge torch out there. And getting within five miles or so

before you turn away, and run away, run away home quickly,
and then turn around, go back, and do it again.

BOGART: That just occurred to me, that you're not
investigating calm air and clear skies and smooth sailing,
are you?

WADSWORTH: That's the only fault I have with these
scientists. You know, I keep telling them, their criteria
for finding something to research is all based on science.
They need to include some other things in their
perspective. Number one, they need to decide where it is
they want to go. I keep recommending for places with white
sandy beaches down around [00:28:00] the equator someplace.
And then after they find where they want to go, they need
to figure out what they want to research when they're down
there. I really think a bright, sunny, beautiful day would
be a great thing to research, (laughter) you know, in the
south along the beach. But for some reason, they can't
find anything interesting there. It's always nasty
conditions, for the most part.

BOGART: What were you doing in Finland?

WADSWORTH: When you guys get tired of hearing me talk,
(laughter) you know, weigh in here.

SPIKER: Chip in?

BOGART: You think they've heard this before?

WADSWORTH: Oh, probably a little bit. In Finland, it was light precipitation validation experiment. Once again, layman's interpretation of what they were doing. The satellites that the US, and probably the world, have up looking at weather, all have their algorithms, apparently, fairly well dialed in for what happens in and around and close to the equator, and some number of miles, probably hundreds, maybe thousands, of miles north and south of the equator. But the farther away from the equator that they get, their algorithms [00:29:00] for what the satellites were seeing and receiving in their [admissions?] and transmissions, and what they were getting back in terms of data, weren't perfectly calibrated. So, some of the predictions they would make from those satellite readings weren't necessarily accurate. So what they wanted to do was to conduct an experiment fairly far north in latitude in an area that had a lot of ground instrumentation, as well as bringing our aircraft, so at the same time a satellite is passing overhead and taking imagery and readings of what was going on down there, it had this ground-based instrumentation as well as this aircraft out there flying, so you'd get the ground truth of what was actually happening, to then allow the scientists to later compare that with what the satellite was seeing and

interpreting, and then allow them to adjust their algorithms and programming in the future, so that those satellites could better assess what was taking place in the weather in the northern climes.

BOGART: [00:30:00] OK. That makes sense.

WADSWORTH: Did to me.

BOGART: OK. All right. I'm going to let you go for a minute.

WADSWORTH: OK.

BOGART: And let's move away from the research function to the transportation function. You said you've been here a couple of years, right?

SIGEL: Yeah, I've been here seven, eight years, maybe, altogether. Just came on full time two years ago, so I'm the new guy to this whole situation.

WADSWORTH: And we don't want to forget that, either.

SIGEL: (laughter) It's a great place to be, and the flying is, like he said, is really challenging. And when you're doing research, you're flying single pilot, which is new to me. I've been flying with two pilots for the last 20 years, and now you go back to single pilot, and that's --

BOGART: And I'm just glad you said that, because that was a question that I had. Are there two guys [00:31:00] in the plane?

SIGEL: Yeah, not anymore. Nope. There's -- it's a single pilot operation when you're doing research, and it's really challenging. And then they always put you in really challenging situations. And then on top of that, Wyoming's just challenging to begin with, you know, like with the -- as far as transportation goes, or research, it's always -- it seems to be always windy, and it's always snowy, and always icy, and always thunderstorms --

WADSWORTH: All at the same time, too.

SIGEL: (laughter) All at the same time, yeah. And lightning, and -- so it's a challenging spot to be in. It's a -- definitely stretches you, you know, definitely.

BOGART: And of course, you don't get to fly in -- well, I don't know what call there is for transportation in the summer when school's out. I don't know if the trustees need it in the summer or not.

SIGEL: There's not as much, but the trustees do meet, and they do still fly around. And the president occasionally wants to go someplace. [00:32:00] You know, there's quite a bit of flying to be had, I guess, actually. But -- what was I going to say? You know, we focus -- we're trying to focus mostly on the research in the summertime. And the transportation is kind of a secondary thing for us, or has been in the past, where it was kind of a practice tool for

us to keep up with the research flying, because sometimes there's big gaps between the research flying, while they're reinstrument-- you know, putting new instruments in the aircraft. And it kind of keeps you up to date, keeps you current.

BOGART: Actually, a friend of mine, Lydia -- [Dambekalns?], I think, is her last name. She flew up to -- I don't know if you flew her up to Gillette --

SIGEL: Yeah. Yeah, I did.

BOGART: -- to visit her student teachers.

SIGEL: Yeah, yeah. She's a very nice gal. I like Lydia a lot.

BOGART: Yeah, she's a good friend. So are those -- do those get scheduled pretty far ahead of time, or does somebody just call up [00:33:00] and say, President Nichols needs to go to...

SIGEL: Yeah, it's usually -- I usually know about a week out in advance, and plan accordingly. And, you know, if you know how many people, and the fuel, and where you're going to go, and transportation, and all that kind of thing.

WADSWORTH: But we do pride ourselves on being -- I mean, right now, for instance. If they were to call out right now and say, we need to go someplace here at two o'clock, Ed would probably have to take his cowboy h-- or his

baseball cap off and his cowboy boots off, and put something else on a little bit nicer, but then he'd be ready to go. And in fact, both of us would be ready to go at that point.

BOGART: OK, OK. So you have a closet of costume changes, and...

WADSWORTH: That's right.

SIGEL: (laughter) Just call us Walmart.

BOGART: (laughter) So let's say you're flying someone from the university to Gillette. What do you do while they're doing whatever it is they're doing?

SIGEL: Yeah, Gillette. So mostly I -- what I did was, I just read my emails, and then took a lunch break. Went down and had lunch, and then came back. Did some more emails.

WADSWORTH: And oh, by the way, there's a Rib and Chop House in Gillette (laughter) now, just in case you happen to drop in.

SIGEL: I happened to drop into that exact establishment. And, you know, just kind of hang out, and then you check the weather, make sure that everything's going good, you know, at your next destination, and where it's going to be when you get there. Like, I think, that day it was -- the winds were -- they were calling for 2-5-0 at 60 knots --

WADSWORTH: Back here in Laramie.

SIGEL: -- back here in Laramie, which is right on the edge of our crosswind component of 25 knots. And I was sweating that all day long. I kept checking it, and it never -- the wind never came up to 60 knots, and it never went to 2-5-0. It was straight down the runway [00:35:00] at 45 knots.

WADSWORTH: (laughter) Easy day.

SIGEL: So it was nice, you know. I landed like I was standing still. Like it felt like we were hovering, so I made a really nice landing.

WADSWORTH: It's a good question, though, about what you do when you get to a destination and you have passengers for the day, though. And, you know, what Ed just described, absolutely right. And when I first got here, it seemed like, boy, there's an awful lot of killing time. And it takes a bit of a mindset change to adapt to sitting at an airport for hours on end while you're at the call of your passengers. You have an expected time when they're going to be back, and they generally make it, and they'll give us a call and a heads up if it's going to change, which is very helpful. But, yeah. Make sure you take a laptop computer along so you can continue to interact with your coworkers back here in the department, and continue to do work for upcoming projects, sending emails, interacting

with controllers where you might be going, those kind of things.

BOGART: [00:36:00] Because when you're doing transportation, do you do jumps from one place to another, or is it mostly up and back?

SIGEL: It's jumps. Well, lots of times -- it just varies. You know, like that one day we went to Gillette and back, but last night, or yesterday, I went to Torrington, and then we went to Riverton, and then we came back. A lot of times with the board members, we'll spin a circle around the state with multiple stops, up to six, seven stops sometimes. That can be a challenging day, you know. Really challenging, because you're getting fuel, checking weather, and then running through checklists.

BOGART: And hoping people show up on time.

SIGEL: Hoping people show up. (laughter) Yeah. Please. Yeah. Especially when you have weather windows to try to make, too.

BOGART: Sure. How many passengers in that plane?

SIGEL: Six, plus -- seven, eight, nine. Nine people altogether, [00:37:00] it'll take, with the jump seat.

BOGART: Because Lydia -- maybe I shouldn't say this.

WADSWORTH: Oh, go ahead. You're only going on a permanent record.

BOGART: (laughs) She showed a picture of herself in the
copilot seat. (laughter) She was real excited about that.

SIGEL: Yeah. I was glad to have her up there.

BOGART: She's a lot of fun.

WADSWORTH: You didn't tell me about that.

BOGART: (laughter) See, I should have kept my mouth shut. I'm
so sorry. I can always edit that part [out?]. (laughter)
I won't worry about that part.

WADSWORTH: This is supposed to be a real and complete
record, now.

BOGART: Yeah, I know. Well, it's all based on people's
memories, and, you know, my memory's a little fuzzy on that
point.

SIGEL: (laughter) Well, I did call you about it yesterday.

WADSWORTH: (laughter) After the fact, obviously.

BOGART: [A concession?]. OK. Well, we'll not go there. So,
what are the errands that people are running around the
state, besides going -- besides the board of trustees
visits, let's say. Is it faculty? Is it administrators?

SIGEL: Errands, errands.

WADSWORTH: You want me to jump on this one?

SIGEL: Yeah, yeah.

WADSWORTH: Give you a little help. Our biggest [00:38:00]
passengers, or most often regularly carried passengers --

education, like Lydia, and then the president and the president's office. And, you know, she has a litany of responsibilities throughout the state, so we carry her wherever she needs to go. Often we don't know her exact purpose for going, but we know she's going out to do good work on behalf of the university and the people of the state of Wyoming. A lot of interactions [with all?] the community colleges as she continues to build the relationships between the community colleges and the university, and trying to help encourage them. And then the high schools. As she visits high schools and spends time with administrators and principals, and I suspect she's having an opportunity to address the graduating classes, to encourage them to come down here to the university, as well. So, there's a lot of that. I know we've taken them around, former presidents, when it comes time for the legislative cycle. Take them around the state to visit with some of the various legislatures -- [00:39:00] legislators, I should say, in their hometowns, as well as take the opportunity to have interviews on some of the local radio stations, and to communicate with a wider audience throughout Wyoming. Other organizations that are sponsored by the president's office is --

religious studies is how it falls under, but it's called Saturday University --

BOGART: I'm familiar with that, yeah.

WADSWORTH: Very well, very well. Taking them out to some of the outlying communities and [giving?] them --

BOGART: OK. So that's how they get there.

WADSWORTH: -- a little bit of a taste of what the universi-- you know, take a small cadre of educators and professors from the university out to these towns -- Gillette, Sheridan, Jackson, wherever it may be -- and they put on a Saturday university talk on whatever subject it may be, which always seems to be well received. So, I don't know. You know, Wyoming is, in some ways, blessed to have a single university here in the state, and I think the university takes that responsibility to heart in trying to get back to the far-flung [00:40:00] towns around the state. And the flight center here, I think, really helps facilitate that relationship, allow (inaudible). You're aware that commercial airline travel is fairly restricted in the state.

BOGART: Oh, yeah.

WADSWORTH: But with these aircraft, the aircraft we have for transportation, it allows us to pinpoint these areas and get out to some small airports, and visit the people, and

fulfill the responsibilities that the university owes the constituents in all these far-flung areas.

BOGART: Sounds like that's a pretty big part of your mission. I understand the research components may be your chief mission, but in terms of time spent --

WADSWORTH: We don't -- try not to say that on recordings.

BOGART: (laughter) But it sounds like there's more time spent on transportation than research.

SIGEL: It has been in the last little bit of time, yeah.

WADSWORTH: It's a true statement. In terms of pure hours flown, yes. Typically, historically, we fly around [00:41:00] 300 hours a year in the transportation plane. The research plan is programmed for 200 hours per year. We have not been achieving that here for the past five or six. We're down around 150 hours a year, I think, in the research (inaudible). So just based on that alone, in terms of the aviation and airborne part of it, you can see where the majority of the effort takes place. However, the amount of effort that goes into putting the research aircraft up and involving our engineers, and our technicians, and the work that Brett Spiker has to do as he oversees all these other techs, technicians, and engineers who come out and do things on aircraft. Everything they do, even though it may not have anything to do with the end

state of a flying aircraft, if they had a nut that they tighten, or put on, or take off, or put back on, on an instrument that was not originally in that aircraft, and has nothing to do with flying, he has to sign off [00:42:00] that that is done, and it's safe for flight.

BOGART: OK. As long as you're (inaudible), let me ask Brett about some of the challenges of fitting out the aircraft for some of these research projects.

SPIKER: Well, the biggest thing is, is safety is the number one concern. And then being safe and keeping it legal. (laughs) So those two, they kind of go together. And the legality of it, you know, as the FAA is evolving, it's made things that I used to do 20 years ago -- they're very -- they're not -- the bureaucracy's gotten harder to deal with, and their technical abilities have lessened, I think. As mine have increased, theirs have lessened. There's a lot less of the technical strength and more of the paperwork [00:43:00] issue. And so -- which is an area that I have to work very hard at, so -- because I understand what to do and how to put it on and -- now it's making the paperwork match to the FAA standards. So now, at that point, we put the -- we have a full engineering group, and we have engineering representatives that are

actually certified, so they're able to help me now, which makes my job a lot easier.

BOGART: When you say engineering representatives --

SPIKER: They're called the DERs, designated engineering reps. So they also have a FAA designation, and they are able to generate paperwork for me.

BOGART: OK. And are they here, or (overlapping dialogue; inaudible)?

SPIKER: Yeah, they are actually on our staff now. So, we have two. We have an electrical one and a structural one, which is very important, those two.

WADSWORTH: So, I could throw in one bit into that. Along with the paperwork is the -- since they're engineers, they do the analysis to make sure [00:44:00] that, you know, whether it's the stress and strain that the mechanical engineer does, or the electrical load analysis, and the wiring, and the routing of those things, and then do the paperwork, the drawings, supporting documentation, which then --

SPIKER: I take.

WADSWORTH: -- Brett Spiker can utilize.

SPIKER: Then I take, and I put together into a package, and then I do the -- it's kind of like a filter. It tightens

up, and once it gets to me, I do the final sign-off, and then it's out.

BOGART: OK. What's been one of the biggest challenges in terms of creat-- no, modifying the instrumentation, or whatever it is you do on the plane?

SPIKER: The biggest one is, back in 2000, I was asked to put a 22 by 22 inch hole in the back of the airplane, so they could shoot a radar out of it. And fortunately, there was already generated paperwork to put this modification in. And then we had to do some supplements to that [00:45:00] modification so we could put a special glass in, so that the radar could look through. And that one took me six months to put to-- because of all of the extra structure that you have build in, so that hole doesn't appear to structurally to be there. So, he has to transfer the load around that hole. And it was very trying. And it tested just about every width, and my body and health, because of driving that many rivets, and you're just -- you get really worn out. But it was very fun. I enjoyed it.

WADSWORTH: The weight of the organization was riding on his shoulders for that one.

BOGART: (laughter) Oh, I can imagine. Tearing a big hole in a plane? Oh my gosh.

WADSWORTH: Silly idea. Who wants to cut a hole in the aircraft?

BOGART: (laughs) Some silly scientist.

SPIKER: (laughs) Yeah, it's counterproductive, because what you -- we usually fix little holes, not cut big holes. So, you know, it was interesting. And it's -- [00:46:00] that's what actually has driven me to stay in the university setting, besides being in my home state, but also how interesting it is. And then the other is the travel that it has blessed me with, to be able to go to all these different countries and meet people. Because a lot of times, you know, you get there, get the part of the job done, and at the end of the day, you get to go out, and then you get to talk. And you spend enough time in these different countries that they get used to seeing you, so they start talking to you, and they realize you're an American, and they -- it's been just wonderful. It just has really broadened my horizon. You know, being from a little town of 2400 people in Wyoming, to going around the world and visiting with people, it's just been a wonderful and blessed -- [00:47:00] I've been blessed the whole time about it, you know.

BOGART: That's great. How -- so these research projects have different length durations, right?

WADSWORTH: Mm-hmm.

BOGART: So, let's say you go -- so, did you go to Finland?

Were you [on that one]?

SPIKER: Yes, I did.

BOGART: So just for example, how long were you there?

SPIKER: I was there 29 days.

BOGART: Oh, OK.

SPIKER: Yeah. So, you just -- they get to used to you, and it's just like you're -- you know, that you're almost got to pay tax there, (laughter) you've been there long -- because you've been there so long. And it's really -- that's the best part I liked, because you really get to know the folks, and they get to see you, and they get used to you, so then you can talk to them, converse with them about their country. And a lot of times, you can -- you know, you're not -- they ask you things that, really, they've heard or something about our country, as well as us about them, and we can figure those things out. It's really interesting, and that's the best part. And, you know, [00:48:00] been -- we've been to the Caribbean twice, Antigua, Martinique; Finland; Exeter, England; and then I've been all over the United States with the airplane. I just got back from Boise, which, you know, I went through as a little kid. And it was -- I totally forgot about how

beautiful a place that was and how wonderful the people are there.

BOGART: It is a pretty city.

SPIKER: It's just something, you know -- we play them in sports, but that's the only part you get to see. And then I got up there, and fortunately, we were close to the campus, and so I got to walk around there and see things. But it was just a wonderful experience. Besides working. You got to work. You got to get that part done, and then...

BOGART: But you do get to get out of the airport.

SPIKER: Yeah, yeah.

BOGART: That's good. Well, now you raised an interesting point, what you liked best about the job. I want to ask Ed the same question. What is it that you like best about this job?

SIGEL: You know, I do enjoy going away on -- [00:49:00] I have not been on a mission like that, yet, for that duration. I do like going away for a week or so on our training. But I think one of the most attractive things to me was the fact that it was kind of like a nine to five. We rarely go out of the state of Wyoming. We spend a lot of time at home. We do our flights during the day, and you're back home at night. When you were flying for the

airlines, it was a constant gone for, you know, five, six days at a time. And here, you get that break every once in a while, and it's a little bit longer, yeah, and unfortunately for these guys, it's been quite a bit longer for the last two missions. But I do -- I like the fact that you can -- it's -- you can come back and forth. And then the people that we work with are just fantastic. I love coming [00:50:00] to work here. This is a great place to work.

BOGART: That's so good to hear.

SIGEL: Yeah. My boss isn't even mean to me. (laughter) On my last job, he was.

BOGART: OK. And we're all keenly aware that the tape recorder is going. (laughter) So, Brett, let me ask you -- and this will kind of be the wrap-up question -- what's your favorite part of the job?

WADSWORTH: Oh, yeah. Good question. Well, first of all, I love living in the Rocky Mountains. This is a special part of the country. As I mentioned earlier, I grew up in Oregon. I've lived all across the south, lived overseas awhile. And, you know, it's always really darn nice to come home to the USA. And then living in Wyoming, here, in the Rocky Mountains... You know, there's not many people who live this close to god, (laughs) let's put it that way,

at this elevation. And then being able to fly, and the job itself. The travel is great. I mean, if I didn't like to travel, I wouldn't be a pilot. [00:51:00] And don't let my wife hear this, but I do like going away and visiting these different places. That's just part of the territory, and I enjoy the opportunity to do that. The people are terrific, as these guys have said, and I enjoy working with these guys. You know, it's hard to say. I mean, it's a package deal. It's a package that I really like, from the place, to the people, to the flying, and to doing something entirely out of the ordinary with an aircraft that almost nobody else in the world does. And it's -- altogether, it's really tough to beat. At this point in my life, I can't envision doing something else.

BOGART: Wow. I just dropped into paradise here, totally unexpectedly.

WADSWORTH: Pretty much. (laughter) Welcome back any time.

BOGART: Oh gosh, this has just been great. I'm going to -- unless any of you has anything that you want to add, something that is real obvious that I haven't asked about?

WADSWORTH: Real -- something significant related to aviation not asked about? You know, Ed's touched on the weather around here. It can be tricky. It can be from days like today, when it's just the easiest thing in the world to go

out and go flying. It's like falling off a log. You can't help but have a successful flight on a day like today. But then the rest -- or on the other times, it's either windy, or it's windy and snowy, and thundering and lightning, as Ed mentioned. And then it really drags out the skills, and you're relying on what the mechanic has done, and you put your life in the hands of what the mechanic has done to make sure the plane is ready to go. And then, you know, it's bringing up all your skills to the tip of the spear, so to speak, and make sure you're on top of your game for those most challenging days, when they occur. And then other than that, obviously, (inaudible) drive around the state, and we get to see it from the other side up there, and it's just spectacular scenery [00:53:00] out there, you know. Flying in near Yellowstone, up around Cody, flying to Jackson, over the Wind River Range, flying over the Bighorns, coming back in over the Snowy range, and, I mean, the whole time we're up there, flying over there on a day like today, our faces are stuck in the windows looking out to see.

SIGEL: Yeah, you're constantly taking pictures, like holding it in front of my face like this.

WADSWORTH: (laughter) Only when we're above ten thousand feet, though. Make sure that's on the record. And just -- yeah. Amazing piece of the country.

BOGART: Well -- oh, this has just been so much fun. I would love to stay the rest of the day, but (laughter) I think probably you've got other things to do. I'm going to cut -
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