Tracey Peake: [00:02](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=2.38) Hello and welcome to NC state's audio abstract. I'm your host Tracey Peake. Did you know that state climate office for North Carolina is located here at NC state? Well, it is and recently Kathie Dello was appointed North Carolina's official state climatologist which makes her the climate office's fifth permanent and first female director. We're talking with her today about the role the climate office plays in North Carolina and how it can help our state potentially predict and prepare for the results of a changing climate. Hello Kathie.

Kathie Dello: [00:33](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=33.3) Hi Tracey.

Tracey Peake: [00:34](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=34.44) Thanks for being here.

Kathie Dello: [00:35](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=35.55) Thanks for having me.

Tracey Peake: [00:36](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=36.93) So let's start off with just talking about you know, the history of the North Carolina climate office.

Kathie Dello: [00:41](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=41.75) Yeah. So the office has been around for 43 years like you said, and at about the mid seventies a lot of states started coming online and having state climatologists and at that time the federal government was funding these positions. Since then, it's become a mix of how states approach these positions. Some are housed at state agencies, but many are housed at universities like here in North Carolina. Anybody who's interested in North Carolina climate can partner with us to do original research or outreach on North Carolina climate and weather.

Tracey Peake: [01:12](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=72.36) What does a day in the life of a climatologist look like? What do you do?

Kathie Dello: [01:16](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=76.08) I have a staff of about 10 people and eight students. So the state climatologist is sort of a figure head. There's a lot of people doing the work of the state climate office and it really varies. There are folks who just put their heads down and do research and write code and drive. A lot of our research programs, there are folks who focus almost exclusively on outreach to k through 12 schools and other groups around the state. And then there are folks who do a mixture of both. And I'm kind of in that role.

Tracey Peake: [01:44](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=104.97) Can you give me an idea of like the kind of research projects you guys participate in?

Kathie Dello: [01:50](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=110.01) Yeah, so we do research that is driven by a decision maker need. So we're not just doing science for the sake of science, rather science for the sake of society. So we work a lot with North Carolina state agencies, including the Department of transportation on rainfall rates and how those may have changed over time. We work with the forestry department on fire weather and learning a little bit about that and what conditions may lead to really ripe fire conditions in the state. We work with other external partners, including North Carolina cooperative extension. So the state climatologist is the trusted source for weather and climate in the state. But I'm one person and we have 10 million people to serve.

Tracey Peake: [02:33](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=153.751) So that is a lot.

Kathie Dello: [02:35](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=155) Yeah, I can't get to everybody individually.

Tracey Peake: [02:37](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=157.39) While I don't see why not - good heavens !

Kathie Dello: [02:39](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=159.57) As much as I would like to. And even with 18 people, we can't do that. So we utilize these networks that exist already around the state and in the university to partner on getting the climate message out.

Tracey Peake: [02:51](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=171.42) So you kind of, you have weather stations across the state that you're collecting data from.

Kathie Dello: [02:57](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=177.33) So we have 44 stations around the state and they're collecting real time weather data at a five minute interval. And the stations are really high tech, they're solar powered. So even during a hurricane we're still getting data until they stop sending them to us. These stations are used for a variety of different applications. Um, we have some of them at this, the universities, agricultural research stations. We have a few located in places that make sense to have some additional data like the city of Durham and we have one out on Bald Head island. So this isn't just for your weather weenie. Right, right. You know, emergency managers are accessing this data too.

Tracey Peake: [03:37](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=217.99) Okay. And with all of this data, do you, do you all ever play a role in daily weather forecasting? Do you share your data with like meteorologists around the state who might be doing a weather forecast or is this sort of for a separate purpose?

Kathie Dello: [03:52](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=232.48) Yes. So we don't do daily forecasting. Our neighbors upstairs, the national weather service, they play that role. They certainly look at our data and use it and we partner with each other when weather becomes climate.

Tracey Peake: [04:05](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=245.08) Okay. Yeah. Let's talk a little bit about how weather becomes climate because that's a distinction that people like to make and sometimes we're not really clear on that. So from your perspective, what is that transition? Where does that happen?

Kathie Dello: [04:19](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=259.09) So a good analogy is that weather is your mood and climate is your personality. So weather can vary from day to day to day, but the climate are the general conditions that you would expect over an area over a longer period of time. So when we talk about climate, we usually use 30 year slices for the long term trends because climate does vary from year to year.

Tracey Peake: [04:43](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=283) In a related question, you know, what do you see as the biggest challenges facing North Carolina generally as climate changes?

Kathie Dello: [04:52](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=292.45) I think we're facing some of those challenges now. So in a warmer climate - and North Carolina has gotten warmer - we will see a number of public health impacts in climate change is also a public health problem. And when we think about exposure to extreme heat, we have a lot of people who work outside every day. So those of us at the university sit in air conditioned offices. But there are people, farm workers who have to be outside, right? Picking crops. When we think about gnarly diseases coming into North Carolina that weren't here before from insects.

Tracey Peake: [05:32](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=332.53) So we know what some of the challenges are. How can your office kind of help us prepare for or face these challenges?

Kathie Dello: [05:41](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=341.11) So we can do research that's very targeted to North Carolina, very specific, utilizing both our weather network, but longer term sources of data as well. And one of the advantages that we have is that we have a staff of people, many of them went to NC state, many of them were born in North Carolina. They know the state very well, and we can work with partners to develop research questions. So the way science traditionally was done is that the researchers would come up with the question, do the analyses, and come up with an answer. But when you co-develop these questions with somebody who has to make a decision, then you're bringing actual people into the conversation. So we do a lot of that.

Tracey Peake: [06:24](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=384.2) Okay. So you're actually looking at solutions to problems that people are having on the ground right now. Which is sort of a very pragmatic use of science. Yes. Very good.

Kathie Dello: [06:33](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=393.71) Thank you.

Tracey Peake: [06:34](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=394.37) So what's your favorite part of this job? I know you're kind of new, but you know, so far.

Kathie Dello: [06:40](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=400.91) My favorite part is that climate really does touch everything and I get to meet a lot of people and learn about a lot of different areas. Um, you know, I'm trained in atmospheric science and policy, but I'll sit in meetings with foresters or I'll sit in meetings with farmers. And right now I'm doing a lot of listening because it's really important for me to understand North Carolina, the people of North Carolina and the problems that they're facing, not something that I've read online.

Tracey Peake: [07:12](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=432.83) So your favorite part is just getting to learn new things, meet new people, and figure out ways that your office could play a role in helping them do their jobs better or more efficiently or more easily or solve their problems.

Kathie Dello: [07:27](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=447.68) Yeah. I've only lived in three states in North Carolina is my third and each of them I've grown very attached to and I really value people's sense of place. And the states that I've lived in, New York and Oregon have that very strongly, and I'm getting that in North Carolina as well. So helping people protect what they love is really what I'm passionate about.

Tracey Peake: [07:51](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=471.53) Great. So we're going to close with the question that I was curious about. What is your favorite weird North Carolina climate fact?

Kathie Dello: [08:01](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=481.73) So the wettest weather station and the driest weather station are only 40 miles apart.

Tracey Peake: [08:07](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=487.64) Wow. Where's that - mountains maybe?

Kathie Dello: [08:10](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=490.73) Yes. So the wettest is Lake Toxaway and they get about 91 inches of rain a year. And then the driest is Asheville, which is up in the mountains, but protected a little bit in a rain shadow and they get about 37 inches of rain.

Tracey Peake: [08:24](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=504.68) Huh. That is really cool. Yeah. And so it was just because of the presence of the mountains, just kind of keeping the clouds from coming over and dumping their little rain on them or how does that work exactly.

Kathie Dello: [08:36](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=516.381) Yeah. So mountains enhance rainfall. So one of the reasons that Lake Toxaway gets so much rain is that when the clouds are trying to pass over the mountains, they cool and condense and then they get too heavy and have to rain out. By the time it gets to Asheville, it's sinking and drying and warming, and it's lost a lot of its moisture.

Tracey Peake: [08:53](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=533.55) Kathie thank you very much for being here today. Welcome to North Carolina.

New Speaker: [08:56](https://www.temi.com/editor/t/Jf-2ZAbZ3kU1fA5_8JAyQ3H4Wl0Lh2qtR3wSPJtDfdtCs8FNusnP1Yx-u_77OpUhv0bc3EtZIgY79tCq1K3Au-ZOVMs?loadFrom=DocumentDeeplink&ts=536.97) Thank you for having me. We've been speaking today with Kathie Dello, North Carolina's official state climatologist. This has been audio abstract. I'm your host, Tracey Peake. Thank you so much for listening.