

[MUSIC PLAYING]

(SINGING) one, two, three, four.

**CATHY WURZER:** It's Minnesota Now. I'm Cathy Wurzer. Nurses at 15 hospitals around Minnesota are on strike today. We'll get the scene from Duluth. One Black mom in suburban Woodbury is finding ways to support other Black moms through childbirth and early mothering. We'll talk to her about her efforts.

[MUSIC PLAYING]

The mountain pine beetle has been munching through pine trees West of Minnesota. How well protected our Minnesota trees? We'll find out. Our rock star geology professor will tell us an origin story of Lake Superior. Local jazz musician Pete Wittmann is here talking about his new music projects and his musical inspirations. Oh, and speaking of music, we'll have the Minnesota Music Minute and the song of the day. All of that right after the news.

**AMY HELD:** Live from NPR News in Washington, I'm Amy Held. Ukraine's counteroffensive in the East goes on at lightning speed. It has taken back dozens of towns and villages in a matter of days. Sites that took Russia weeks to capture. Military analysts say Russia now faces major challenges with few good near-term options as it tries to regroup.

The Kremlin is making its public response to Ukraine's recent military gains for the first time, and it has a different take. NPR'S Charles Maynes reports from Moscow, the Kremlin, insists Russia will achieve its military objectives in Ukraine.

**CHARLES MAYNES:** The comments came from Kremlin spokesman Dmitry Peskov after he was asked by a reporter whether the Russian leadership still had faith in its military given the surging Ukrainian counter-offensive. Peskov also said President Vladimir Putin was aware of all decisions taken by his generals. Russia's defense ministry has insisted an order to retreat from several cities over the weekend was part of a planned regrouping of Russian forces.

On Monday, the ministry also said it had launched missile strikes at Ukrainian units that took part in the offensive. Yet the pullback from territory that included a key logistics hub for the Russian military campaign has prompted some government loyalists to openly call for a change in Kremlin strategy. Charles Maynes, NPR News, Moscow.

**AMY HELD:** Court proceedings go on today in Florida to determine the sentencing for Nikolas Cruz. He shot dead 17 people at a high school five years ago. NPR'S Greg Allen reports.

**GREG ALLEN:** Prosecutors presented weeks of chilling testimony from students and teachers who survived the shooting at Marjory Stoneman Douglas High School. Jurors watched chilling surveillance video of Cruz firing his AR-15 style rifle in hallways and into classrooms, shooting some victims multiple times. And jurors viewed graphic autopsy photos of the 14 students and three staff members killed.

Defense attorneys have focused their case on Cruz's childhood. Born to a mother who abused alcohol and crack cocaine, adopted as a baby by a 50-year-old mother who was slow to seek help for her son's behavioral and developmental problems. Cruz has already pleaded guilty to the murders. The jury will decide whether he receives a sentence of life in prison or the death penalty. Greg Allen, NPR News, Miami.

**AMY HELD:** In Edinburgh, Charles the III is set to address Scottish Parliament for the first time as King. Earlier today, he led a procession through the streets carrying the coffin of Queen Elizabeth, now lying at rest at St Giles cathedral. NPR'S Frank Langfitt reports crowds gathered to pay their respects.

**FRANK LANGFITT:** She's the only queen that almost anybody, when you look across these crowds, has ever known in this country. And it's cliché to say so, but she was seen largely as the nation's grandmother. So there's-- people felt very close to her in a lot of ways.

**AMY HELD:** Not all Britons share the same sentiments however. A handful of protesters have demonstrated against the day's long proceedings, arguing the monarchy is obsolete and anti-democratic. Tomorrow, the Queen's coffin will be moved to London's Buckingham Palace. And you're listening to NPR News.

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[MUSIC PLAYING]

**CATHY WURZER:** Around Minnesota right now, skies are blue and it's bright. Highs today lower 70s to the lower 80s. At noon in Eveleth, it's sunny and 66, it's 67 in Painesville, and outside the Lake Pepin Pearl Button Company, it's sunny and 71 degrees. That's in Salt Lake City by the way. I'm Cathy Wurzer with Minnesota News Headlines.

The top story is the Minnesota Nurses Association strike that started this morning. We'll have details in just about a minute. Minnesota Timberwolves star Anthony Edwards could face League discipline and a fine after posting homophobic comments on social media over the weekend.

Edwards deleted the Instagram video that included several slurs about a group of people on a sidewalk. That video appeared to have been taken from inside a car. Edwards offered an apology yesterday on Twitter, saying the comments were immature and hurtful, and he was sorry.

A northern Minnesota man has been found dead after going missing while harvesting wild rice on the Vermillion River. The Saint Louis County Sheriff's Office says deputies were called to the river near Crane Lake Saturday afternoon on a report of a missing person.

The 43-year-old man from Orr reportedly was harvesting wild rice from a canoe. The canoe was found unoccupied and overturned. Authorities say the County Rescue Squad found the man's body in the water late yesterday afternoon. He was not immediately identified.

[MUSIC PLAYING]

So let's dive deep into our top story here. Registered nurses are picketing right now at hospitals in the Twin Cities and in Duluth. The 15,000 members of the Minnesota Nurses Association are on strike for the next three days. It's the largest private sector nurses strike in US history. Laura Butterbrodt is the health reporter for The Duluth News Tribune. She's been covering the strike. Welcome to Minnesota Now, Laura. How are you?

**LAURA** Good, Cathy. Thank you for having me.

**BUTTERBRODT:**

**CATHY** What's the scene like there in Duluth? And I also understand the Essentia hospital in Superior?

**WURZER:**

**LAURA** Yeah, so I haven't been out to the scene yet today. I'm planning to go over at 1:00 for a press briefing. But I've

**BUTTERBRODT:** heard from my photographers who were there early this morning that there were hundreds of nurses at the Duluth Campus of Essentia and St Luke's. It sounds like there's more at the Essentia Campus, which is a bigger hospital than St Luke's. And then there were also about 50 nurses at the Essentia Superior hospital. And it sounded like the afternoon picket would have more nurses coming out to attend for that.

**CATHY** Any idea how many nurses are striking in the Twin Ports?

**WURZER:**

**LAURA** Yeah, it's about 2,500.

**BUTTERBRODT:**

**CATHY** So that's a substantial number. What are the health care systems Essentia and St Luke's said about the strike?

**WURZER:**

**LAURA** Well, obviously they're not super happy that the strike has happened. They have said, however, that they are  
**BUTTERBRODT:** fully staffed. They've used some agencies to help them find registered nurses to come in for these three days. So they're ensuring patients that care is still open in all areas for them to come in.

It sounds like the hospitals really would have preferred that the negotiations for contracts would have been settled in their bargaining sessions and not through a strike. But obviously that hasn't happened yet.

**CATHY** So there are some traveling nurses that have been called in or some other temporary nurses called in. So if

**WURZER:** someone is sick, they need ER care perhaps, they can still get care, right?

**LAURA** Yeah. It sounds like everything is still operating normally. There were a few like kind of non-emergency surgeries

**BUTTERBRODT:** that did get rescheduled, but patients were contacted directly for that. So unless there was a specific rescheduling, everything is open as normal this week.

**CATHY** Are either of the two hospitals, are their ERs operating right now?

**WURZER:**

**LAURA** Yeah, as far as I know, they are both operating fully as well.

**BUTTERBRODT:**

**CATHY** OK. Nurses in the Twin Ports, of course, nurses in the Twin Cities too have said that wages are a big part of this strike. But also safety and working conditions are big concerns too. What have you heard from nurses in the Twin Ports?

**LAURA** That's definitely similar to what I've been hearing up here. A lot of nurses are saying they're expected to take **BUTTERBRODT:** eight patients per nurse, which is many more than they were told they would have in contracts. And I've just heard a lot of stories of not feeling prepared to take care of the amount of patients that they're assigned to, and fears for what that could mean for if a patient were to code or something bad were to happen under their care and they weren't able to get there in time because they were busy with another patient.

I saw a sign this morning at the picket had something about how a nurse got PTSD in this time working there. So it sounds like the conditions have to be really bad for them to take it to this point. And from what I've heard from Nurses Association members, they didn't want to have to strike, but they felt they had no choice at this point.

**CATHY** Do you have a sense here, Laura, how conditions have-- how have they been before the pandemic versus after the pandemic? Have they gotten worse?

**LAURA** Yeah, that's what it sounds like. From what everyone has said, there's been a nursing shortage before the **BUTTERBRODT:** pandemic for sure, but this has just made it so much worse. And obviously the shortage isn't unique to Duluth or even to Minnesota, it's definitely a national problem.

And so that's something the hospitals have said in their response for wanting to have more nurses, is they're trying their best, there just aren't people in the profession who can take the jobs. But the Nurses Association wants the hospitals to do more just to ensure that nurses can get hired and then also stay with them and don't leave for a better job.

**CATHY** Just curious here. Laura, have you been told-- what are staffing levels? How many nurses I guess, is it possible to **WURZER:** gauge, have left St Luke's and Essentia since the pandemic? Any way to gauge that at all?

**LAURA** I'm not positive on that. I know that, especially in emergency rooms, they've seen really big amounts of nurses **BUTTERBRODT:** leaving. I think it does impact every floor and department. But I've heard, especially from emergency department nurses where things are at the most dire circumstance.

**CATHY** I know that the nurses rallied yesterday in downtown Duluth. And this is kind of interesting because there have **WURZER:** been, of course, nurses strikes in the Twin Cities, but isn't this the first time that both the Twin Ports and the Twin Cities have gone out together?

**LAURA** Yes, it is. And that's kind of how it has become this historic strike with the amount of nurses that are striking. The **BUTTERBRODT:** 15,000 includes that 2,500 from the Twin Ports. So yeah, I think that is significant that they've worked together in this. And they were also going to include the Essentia Moose Lake nurses, but I heard this morning that, that strike has not been happening today after all.

**CATHY** Ah! Do you know why?  
**WURZER:**

**LAURA** I don't know details of it. I did see that it sounded like their last negotiation was making some progress. They've  
**BUTTERBRODT:** been negotiating since 2020 when Essentia bought Mercy Hospital in Moose Lake. So they've really been working for a long time at this. And from what I've heard from Essentia, they've made some good progress and the strike was called off this morning.

**CATHY** And we should also say that the Essentia facility in Superior is a part of this too, right?  
**WURZER:**

**LAURA** Yes.  
**BUTTERBRODT:**

**CATHY** All right. So I know you're-- I know you're busy here. I know you have to get out on the picket line to do some  
**WURZER:** interviews. What are you expecting to hear, do you think?

**LAURA** From what I've seen this morning, it looks like there's a lot of teamwork from the nurses there. They feel  
**BUTTERBRODT:** supported by each other. And there was a big community showing last night as well at their rally. I'm expecting that they're going to talk more about what they're hoping to get out of the strike, which is to settle their contracts.

They're especially hoping to have the hospitals put language in the contracts to ensure that they will have safe staffing levels and they will take care of the patients. There's also requests for up to a 30% over three years raise, which I know the hospitals are having a hard time coming to agreement for. They're offering more like a 10% raise over the three years. So that's something they also talk about. But the nurses, from what I've heard, are most concerned with the safe staffing levels.

**CATHY** All right. By the way, do you know, are the hospital systems planning any news conference today, or they're lying  
**WURZER:** low?

**LAURA** I haven't heard of anything. I have been emailing with some of their media relations people to get questions  
**BUTTERBRODT:** answered, and they've released a couple of statements just about they're still open, patients should still come in, they should drive carefully because there are pickets happening, so the streets are kind of crowded. But, yeah, as far as I've heard, it's just the M&A conference at 1:00 that I'm planning to attend.

**CATHY** All right. I really appreciate your time here, Laura. Thank you so much.  
**WURZER:**

**LAURA** Yeah, thank you so much.  
**BUTTERBRODT:**

**CATHY** Laura Butterbrodt is the health reporter for The Duluth News Tribune. Now, we should tell you that we reached  
**WURZER:** out to Essentia Health for a comment. They did send us a statement saying that they are disappointed with the M&A focusing on its efforts on a strike instead of at the bargaining table where they say, quote, "real solutions are found."

We, quote, "continue to believe that it's imperative for both sides to exhaust their options in pursuit of a mutually beneficial agreement. One of those options, which we've repeatedly requested, is mediation. Unfortunately the Union has consistently declined this request." Of course, we have much more on the strike at [nprnews.org](http://nprnews.org).

[MUSIC - JERRY OSTENSOE, "TROUBLE IN MIND"]

(SINGING) On our trouble, oh, trouble, trouble, We're troubled, man. I'm feeling blue, you know I ain't had so much trouble, in my life before

**CATHY**

**WURZER:**

Now, this is the song, "Trouble In Mind," an old blues tune that goes back so far, it's tough to know who originally wrote it. But this version is sung by Granite Falls musician Gerry Ostensoe. Jerry passed away on August, 29th from causes related to ALS. I want to say Thank you to listener Carol Thompson who got in touch with us to let us know about Jerry's passing.

[MUSIC - JERRY OSTENSOE, "TROUBLE IN MIND"]

(SINGING) Carrying my trouble, man. Oh, now Trouble in mind, I'm feeling blue, but my blues won't last always. I know--

**CATHY**

**WURZER:**

12:15 here in Minnesota Now from NPR News. I'm Cathy Wurzer. We're talking a fair amount these days about children's mental health. But right now we want to focus on the mental health of mothers. It's key to raising healthy kids. It starts even before they're born. That period of pregnancy when you're moving into motherhood is full of questions, doubts, and worries.

That can be especially true when you know the healthcare system is not set up to take care of you the way you need. Woodbury Minnesota mom Monica Jones is the founder of an online organization called Melanated Mamas. She knows Black women are three times more likely to die from a pregnancy-related cause than white women, and she's determined to help. She's on the line right now. Monica, welcome.

**MONICA JONES:** Hi, Cathy. Thank you so much for letting me be on the show today.

**CATHY**

**WURZER:**

Nice to have you here. Thank you. So tell us the story behind Melanated Mamas.

**MONICA JONES:** Yeah, I like to say that it started when I was 17 years old. I did an independent study in high school and I had an opportunity to understand nurse midwifery. I thought I was going to go to school to become a nurse midwife, but I took that information and I decided that when I became pregnant, when I had my first baby, that I wanted to have a midwifery care model to be able to bring my child into this world.

And so I had a very beautiful, empowering and secret experience when I gave birth to my first daughter. And then was able to have my water birth, which is something I dreamed of having, with my second daughter. And I'd like to say that-- I wish I could say that my story continues to be this really beautiful and empowering experience with my third child, but when I became pregnant with my third, Skyler, I realized that I was in an experience that look a lot different than the midwifery model of care.

I went to the birth center, and at 20 weeks, I found out that I had gestational hypertension. And so that moved me into the healthcare system and a hospital. And I was exposed to how challenging and difficult it is to navigate the healthcare system. And on top of that, it's 2021 when I was pregnant with my third daughter, and so I'm hearing all these alarming statistics about Black women dying two to three times more likely than white women.

And having to carry that burden on top of having hypertension, on top of being in this hospital setting, I find it really difficult to go through the rest of my pregnancy experience. Unfortunately, I ended up having preeclampsia and had to have an induction at 34 weeks and watch my baby spend the next 52 days of her life in an incubator.

And so my postpartum experience was a lot different than my previous. And that's kind of what gave me the idea of, wow! There are a lot of women that look like me and other women that are experiencing these really challenging, difficult pregnancy, birth, and postpartum experiences. We have to do something about it now. And Melanated Mamas is the way that I feel is a way to kind of tackle that problem.

**CATHY** You know, I was on your Instagram page and your website, and it's very positive and joyful, right?

**WURZER:**

**MONICA JONES:** Yes. Yes.

**CATHY** How do you relate to women who are just scared?

**WURZER:**

**MONICA JONES:** Yeah. I think it's about sharing positive birth stories. Like I said, I was exposed to very beautiful birth stories and very empowering birth stories. And I think it was that early exposure that allowed me to realize that there is something-- we can do something different.

And I think if we continue to share positive birth stories, we continue to talk about not just the statistics that are very alarming, but we talk about how do we empower ourselves, how do we advocate for ourselves during our pregnancy and our birth experience so that we are able to have the type of experience that we want and that we deserve.

**CATHY** Tell me about advocating for oneself, right? If you, maybe as a first time mom, that might be a little tough to do because you're just trying to figure it out what's going on with my body. Give me an example how you might help a first-time mom advocate for herself in a situation?

**WURZER:**

**MONICA JONES:** Yeah. I think it starts with education. So I think, as a Black woman and going through the health care system, I think it's important to educate yourself on birth and how to-- understanding the policies and procedures of the hospital and receiving your birth right. When we are able to educate ourselves, we are-- we have the tools to be able to speak the language that the hospitals are speaking, then we are able to advocate for ourselves better.

I think another way to advocate for yourself is getting a birth team in place. Having a doula I think is one of the best ways that you can arm yourself with-- sorry, arm yourself with the knowledge that you need to be able to navigate those systems. And have somebody else on your team that can advocate for you.

**CATHY** Is there a topic specifically you think new parents don't know enough about, that there's not enough education out there on?

**WURZER:**

**MONICA JONES:** I would say postpartum. I think we don't give mothers enough information on how to navigate those early days of postpartum. A lot of times-- or during the pregnancy, we're all focused on you and baby. And then when baby comes, all of that focus shifts to baby. And so baby gets all of these appointments, and even the visitors that come, they want to-- they want to see baby, but we're not giving our moms enough information and knowledge on warning signs that we need to look for.

When you do go home, we're only given that six week appointment, which, to me, is a little bit too long to be able to check on mom. And so I feel like if we are able to give moms more education and information on warning signs, how to navigate breastfeeding if that's something that you choose to do, warning signs around your mental health, things that you should be aware of, the difference between baby blues and postpartum depression. I just feel like we need more knowledge in that postpartum period.

**CATHY WURZER:** And how is the medical establishment falling short in helping Black moms specifically navigate the postpartum experience?

**MONICA JONES:** Yeah. I think a lot of it is just with not setting us up for success or for what to look for. Like I said, a lot of us are being discharged from the hospital two to three days after having a baby. We're given this giant packet of information that we're supposed to go through. Maybe we're watching a video here or there to understand the baby shaking syndrome and how to handle those things, and maybe a little bit around mental health. But then we're kind of set free.

And a lot of Black moms and BIPOC moms, we just don't have a lot of the support systems that we need in place to be able to navigate those first early days. And so I feel like the health care system should have a way to be able to continue that postpartum care so we can continue to visit that mom a couple days after she had her baby and she's home. Or a couple of weeks instead of waiting to that six week time period.

**CATHY WURZER:** And this is where you come in, though, too, with the help that you offer?

**MONICA JONES:** Yes, absolutely. So we just launched a postpartum box, which really encompasses all the three things that I believe that we need for our postpartum care. So we do need the things to kind of heal the essential things, the tangible things for self care and for healing. But we also need education.

So education around how to advocate for yourself during your birth and how to plan your postpartum. I feel like sometimes we spend a lot of time on baby showers and gender reveals but we don't spend enough time on planning and preparing for postpartum. And then that third prong is community. So we need community to be able to lean on each other so that we don't feel alone on this journey, and so that we can ask questions before it's too late.

**CATHY WURZER:** All right. I wish I had more time, Monica. Thank you so much. Good luck.

**MONICA JONES:** Thank you.

**CATHY WURZER:** That's Woodbury mom Monica Jones. She's the founder of an online organization called Melanated Mamas. You can learn more at their website [themelanatedmamas.com](http://themelanatedmamas.com).

**SPEAKER 1:** Comes from Think Small Minnesota, supporter of the Early Risers podcast, ensuring equitable access to quality care and early learning education for Minnesota's young children. Helping reducing child care shortages and alleviating economic challenges at [thinksmall.org](http://thinksmall.org).

**CATHY WURZER:** Let's get a news update right now from Mr. John Wanamaker. John.

**JOHN WANAMAKER:** Cathy, Ukrainian troops have reclaimed a wide swath of territory from Russia and pushed all the way back to the Northeastern border in some places. The Ukrainian military also reported capturing many Russian soldiers. The gains are part of a lightning advance that forced Moscow to make a hasty retreat from occupied land as blue and yellow Ukrainian flags fluttered over newly liberated towns. The Ukrainian military said its troops had freed more than 20 settlements in 24 hours.

King Charles III and his three siblings marched behind their mother's flag draped coffin in a solemn procession in the historic heart of the Scottish capital of Edinburgh. The King dressed in an army uniform, was accompanied by Princess Anne, Prince Andrew, and Prince Edward. the coffin will remain at St Giles Cathedral in Edinburgh until Tuesday so members of the public can pay their respects to Elizabeth who died last week at the age of 96.

President Biden will highlight his administration's efforts aimed at ending cancer as we know it when he travels to Boston today to promote a new federally backed study that seeks evidence for using blood tests to screen against multiple cancers. Medical experts say it could be a game changer in diagnostic testing to dramatically improve early detection of cancer.

Former President Trump's lawyers are dismissing his retention of top secret documents at his Florida home as a storage dispute, and are urging a judge to keep in place a directive that temporarily halted key aspects of the Justice Department's criminal probe.

In a motion filed today, the Trump team also referred to the documents that were seized as, quote, "purported classified records," suggesting his lawyers do not concede the Justice Department's contention that highly sensitive top secret information was found by the FBI in its August 8th search of Mar a Lago. This is NPR News.

**CATHY WURZER:** It's Minnesota Now here on NPR News. I'm Cathy Wurzer. Can you picture this, it's a sturdy stand of tall green pine trees. It's something that's a pretty common sight in Minnesota. Well, I have some concerning news. Tiny insects called pine beetles may have a big impact on Minnesota's forests and the pine trees in your own yard.

Brian Aukema is Professor of forest insect science at the University of Minnesota Saint Paul campus. He's been studying the mountain pine beetle and the threat it poses to our forests. He's on the line right now. Professor, good to have you here.

**BRIAN AUKEMA:** Thanks for the invitation.

**CATHY WURZER:** Sounds kind of interesting this, concerning, as I say, what is the mountain pine beetle?

**BRIAN AUKEMA:** The mountain pine beetle is a bark beetle. It's about the size of a grain of rice, and it's a little tiny insect that lives inside a pine trees. The females will land on the tree and they'll chew through the bark. And as they chew through the bark, they release a tiny chemical known as a pheromone that you or I can't smell, but it attracts many of the other mountain pine beetles.

And so the males will land on the bark and try to get in underneath and join the female and mate. Other females are also coming to the tree and chewing in, and so you can get this massive attack from thousands of mountain pine beetles on a tree. And as they tunnel in, I liken it to death by 1,000 paper cuts. The tree can maybe fend off a few bark beetles by emitting some resin that tries to plug up those holes. But in the face of thousands of bark beetles attacking a tree, the tree can lose very, very quickly.

**CATHY** Oh! Do you know if your tree is being attacked?

**WURZER:**

**BRIAN** Yeah, mountain pine beetle likes to breed in big, mature pine trees. And it will feed on just about every species of pine in Western North America. And we're not quite sure yet how it might do in Eastern North America. And that's our major concern, because it's undergoing a little bit of a range expansion and we're very concerned about mountain pine beetle arriving in Minnesota and our neighboring states.

**CATHY** Where have they've been so far?

**WURZER:**

**BRIAN** The farthest East that they currently are, are Ponderosa pine forests of South Dakota in the Black Hills.

**AUKEMA:**

**CATHY** I've been there, and those pine forests look a little tough.

**WURZER:**

**BRIAN** Yeah, mountain pine beetle undergoes outbreaks every few dozen years. And it can kill massive amounts of pines in a very short period of time. There was a major outbreak in Western Canada about 20 years ago when mountain pine beetles, there were so many of them, they got over the Rocky Mountains into an area called Northwestern Alberta where lodgepole pine, its ancestral host, hybridized with jack pine. And jack pine is a new species of pine to mountain pine beetle.

And it's reproducing in that hybrid zone in Alberta, Canada between jack pine and lodgepole pine, and we have concern that mountain pine beetle could continue through that jack pine corridor through the Canadian boreal forest into Minnesota and Wisconsin and Michigan, and even farther out to the East Coast.

**CATHY** Of course, Minnesota is known for the white pine and the red pine too. Do these beetles munch on those?

**WURZER:**

**BRIAN** That's correct. We have red pine, white pine, jack pine, scots pine, all different species of pines here in the state that mountain pine beetle has not previously been exposed to. We're not sure how they would do in these species of pines, and that's what really concerns us. Because we see how it does out West, and we know that the threat is very real here.

**CATHY** What environmental or climate conditions have spurred the pine beetles expansion East?

**WURZER:**

**BRIAN** Well, in Western North America, it was ameliorating winter temperatures. Mountain pine beetle will typically die if it gets to -40 degrees Fahrenheit. And a number of winters in a row that temperatures didn't quite reach that low level allowed populations to increase, and led, in part, to that major outbreak that I was just talking about, which unleashed this range expansion eastward.

**CATHY** So it sounds like they prefer a climate that's not going to be too harsh, which, of course, climate change is kind of making that happen during the wintertime. The winters are not as cold. What are you doing to study these insects?

**BRIAN** We're working at three different areas right now, Cathy. The first is looking at how they might do in Minnesota's pines. What we've done is we've taken trees from Minnesota to the Black Hills of South Dakota where there are populations of mountain pine beetle. We do not want to do experiments where we bring mountain pine beetle to Minnesota. We just cannot risk unleashing an epidemic here.

So we harvest jack pine, red pine, white pine, scots pine, we bring it to South Dakota, and we expose them to mountain pine beetle populations. And what we have found is that the beetles can recognize the trees, they can tunnel into the trees, they can release pheromones that attract other beetles, they can mate, lay eggs. So they seem to be quite suitable for mountain pine beetle reproduction. What we don't know is how live trees would potentially be susceptible. So that's one area of focus that we have.

Secondly, we're looking at the climate, and how a change in climate might affect populations of mountain pine beetle. We see actually when we bring our Minnesota pines out West, that sometimes mountain pine beetle can reproduce just a little bit faster than we expected. And it might seem to be, on the surface, very bad news that, Oh, our pines are very nutritious and the beetles are developing very, very, very rapidly in these pines. More so than they would out West in their typical host like lodgepole or Ponderosa pine.

In fact, though, mountain pine beetle does the best in the winter if it goes through the winter as a larval form. It needs to be those tiny little grubs underneath the bark, because that's the most cold hardy stage for mountain pine beetle.

And so if they reproduce too quickly and go through the winter in a life stage other than wriggling little grubs under the bark, they may be more susceptible to winter temperatures. So we might actually see a scenario where our pines are actually too good for mountain pine beetle and it risks exposing them to temperatures that they're not accustomed to at different life stages.

The third area that we're working on is looking at how it would interact with our native bark beetles and insect predators that we already have here in Minnesota. Minnesota has many different types of bark beetles actually. And mountain pine beetle would have to share the forest resource with those bark beetles.

We have bark beetles that are much less of a problem. They do not kill live trees on the scale that mountain pine beetle does. But many bark beetles, when they chew through the bark and they start emitting these chemical pheromones to attract other bark beetles, they also advertise themselves to other insect predators that are eavesdropping on that chemical signal. And so that smell attracts not only bark beetles, but other insect predators.

What we have done is deployed some of those pheromones to insect traps to see what would come in to these mountain pine beetle pheromones. What is out there in the forest that can cue in on them. Some good news is that we have never ever found mountain pine beetle here in the States. So we have some confidence that mountain pine beetle is not here yet.

Some news that's perhaps not so good is that we haven't found that the insect predators recognize the pheromones of mountain pine beetle. So we put that smell out and we're just not seeing many of our native insect predators coming into these traps. And in fact, our native bark beetles just seem to avoid the pheromones of mountain pine beetle.

**CATHY** OK. If it does show up here, though, what would your team and other foresters do at that point?

**WURZER:**

**BRIAN** Right now we are simply scrambling to learn absolutely as much as we can. Another area that we're still working  
**AUKEMA:** is the risk of dispersal. We realize that the Black Hills of South Dakota are only 500 miles from our pine forests here in the state of Minnesota.

We've done a number of experiments working with outbreaks of mountain pine beetle in Montana and South Dakota and Wyoming where we have taken lines of traps, starting in the forest where we have mountain pine beetle, out hundreds of miles into rangeland where there are no trees. And we feel perhaps even a little bit silly putting traps baited for mountain pine beetle in the middle of a cow pasture where there just aren't any trees for as far as the eye can see in some of these Western states and Range lands.

And what we've tried to do is quantify how many mountain pine beetle might be blowing off the infestation fronts and away from the forest as they seek new host. And we know that a certain proportion just get caught in these advective updrafts and they can blow dozens and dozens of miles.

Some good news is that we have not found mountain pine beetle more than maybe 50 miles from infested forests. And that's a fraction of a percentage. And while it's somewhat alarming when we look at some of these traps with no trees around and we can actually find some mountain pine beetles, it is reassuring in the fact that we don't see the risk of mountain pine beetle blowing into Minnesota as a very high risk anytime soon.

**CATHY** All right. Professor, thanks. Good information. I appreciate your time.

**WURZER:**

**BRIAN** Thank you, Cathy.

**AUKEMA:**

**CATHY** That was Brian Aukema. He's a professor of forest, insect science at the University of Minnesota in Saint Paul. To  
**WURZER:** learn more about the mountain pine beetle, there's a lot of information on the State Department of Agriculture website. That's [mda.state.mn.us](http://mda.state.mn.us).

**SPEAKER 2:** Support comes from South Dakota, reminding you that the greatest part of a road trip is how you appreciate every minute a little fuller, feeling the rhythm of life's great adventures. Information at [travelsouthdakota.com](http://travelsouthdakota.com).

**CATHY** 12:41 here on Minnesota Now. OK, sit back, relax, we have a story to tell you about breakups that can be volcanic, personally, and geologically. Professor Jim Cotter teaches geology at the University of Minnesota, Morris, and he is returning to Minnesota Now with a story about the near breakup of the North American continent that gave rise to Lake Superior. I'm sitting with bated breath here. Professor Cotter, how are you?

**JAMES COTTER:** I'm good, Cathy. How are you?

**CATHY** Good, thanks. What's this about a near breakup of the North American continent, and what does it have to do with Lake Superior?

**JAMES COTTER:** Yeah, that's a great story, is right. Last time I talked about how the continent was put together piece by piece 3 billion years ago. But if you move forward in geologic time, about a billion years ago, the region that's now Minnesota started to, what's called rift apart. It started to form an ocean.

That process, of course, is driven by plate tectonics, the movement of the Earth's surface plates. But it's-- the driving force is a huge, like a technical term, a blob of magma rising up through the crust. And with that magma, came all sorts of interesting things. First of all, the continent literally splits. And so the low spot that Lake Superior is in is really an ocean that started to form and then stopped.

And then as you look around both on the Minnesota side of Lake Superior and the Duluth-- the Michigan side of Lake Superior, there's all this evidence of just a fantastic volcanic event that is simply mind boggling.

**CATHY** Oh! I didn't know that. That explains in part why Lake Superior is so big?

**WURZER:**

**JAMES COTTER:** That's exactly right. The depth of Lake Superior is amazing in comparison to the other great lakes. And the reason is it's underlain by oceanic crust.

**CATHY** And this was, how long ago again? More than a billion?

**WURZER:**

**JAMES COTTER:** About a billion years ago. And the process lasted for 30 or 40 million years and just stopped. And in the interim, you have huge volcanic flows. And you can see those now. Gooseberry Falls is a great place to see them. Everywhere where the water falls, that's another lava flow.

And then underneath those flows subsequently came it's like a broken lava lamp. The wax rises up but it doesn't fall back down. And so you have these huge igneous bodies underlying the whole northern part of Minnesota, the whole North Shore, that just generated some really interesting igneous features.

**CATHY** Oh, that's cool. Now, I know enough geology to be dangerous. Geologists talk about the Duluth Complex. So what is that and how is it related to this rupturing of the continent we saw a billion years ago?

**JAMES COTTER:** Yeah, that is a dangerous amount of geologic knowledge, Cathy. the Duluth-- [LAUGHS] the Duluth Complex is really the kind of heart and soul of the whole event. One really, really large igneous body rises up through the crust. And the interesting-- and the Duluth Complex became world famous when it was recognized.

It's not just Minnesotans know about it, not just you, but the whole world kind of, that understands igneous processes looks to the Duluth Complex, because what happens is, a, there's a series of events, and some of them are mineralized. The copper in Minnesota comes in one of the early volcanic rising masses.

But the main one, and that's the one that's famous and that underlies the whole North Shore of Lake Superior and extends under Lake Superior to Michigan, that thing was in a body that was tens of miles by tens of miles in surface area. And it lasted so long that crystals started raining out of it. I don't know if you've ever discovered a honey jar in your cabinet that you forgot about and you see all the sugar crystals on the bottom. What's happening is the honey is losing water. And so you get supersaturation of sugar, and it falls out.

That happens in the Duluth Complex. That you get crystals that fall out, and it stays hot enough to remain a liquid that's loaded with crystals, almost like a slushy kind of thing, and it keeps raining out these layered crystals. And the Thompson Overlook is actually a good place to see that.

But one of the just amazing things to visualize is that, that magma chamber, it was large enough to generate currents and even waves. So you would have this magma with waves, and the crystals are being tossed about like sand grains. Really a cool thing. Amazing.

**CATHY** Wow! Does that explain then some of the mineral deposits that we have not only around Duluth, but the Range?  
**WURZER:**

**JAMES COTTER:** The iron is a different formation, and a little bit older than the Duluth Complex. But the copper and-- copper, zinc, and I think platinum metals are explained by at least one of those several igneous intrusions. And the same thing on Michigan side where Michigan's mining copper and platinum.

**CATHY** Wow, this was so dramatic.  
**WURZER:**

**JAMES COTTER:** Yeah, I'm sorry. But it's exciting stuff, Cathy.

**CATHY** Yeah, I know. I know. And this is why we call you our rock star geology professor because you tell such great  
**WURZER:** tales and you just have such a great way of explaining it. I wish I had more time, but I got to run. Thank you.

**JAMES COTTER:** That's OK, Cathy. You're welcome. You're welcome.

**CATHY** Talk to you later. Jim Cotter is professor of geology at the University of Minnesota, Morris.  
**WURZER:**

[MUSIC - PETE WHITMAN, "BERTYE"]

That is Twin Cities Jazz saxophonist Pete Whitman with his song "Bertye" of the album *Life After*. Pete is a saxophonist, a flutist, clarinetist, composer, arranger, and educator based in the Twin Cities. As a freelance musician, Pete Whitman performs in a wide range of musical styles, including jazz, classical, and pop.

He's performed with nationally known jazz musicians like Jack McDuff, the Glenn Miller Orchestra, and the Temptations. Whitman joins us now to talk about his music and what inspires him as a musician. Hey, Pete. Welcome to Minnesota Now.

**PETE** Oh, hey, Cathy. Thank you. Thank you for having me.

**WHITMAN:**

**CATHY** That's a beautiful track we just heard. I know you recorded that with guitarist Chris Olson. What do you like about  
**WURZER:** performing with Chris?

**PETE** Oh, Chris is just a wonderful musician all around. And on that particular tune, he kind of lays down this beautiful  
**WHITMAN:** bed of color. And, I mean, that's just one of his many strengths. So I'm always glad to play with Chris.

**CATHY** A bed of color. I like that. And then how do you see your role as a saxophonist?

**WURZER:**

**PETE** Well, in that particular tune, I am playing this introspective melody and lots of long notes where there's plenty of  
**WHITMAN:** room for the bassist Gary Raynor and Dave [INAUDIBLE] as well as Chris to kind of colorist and shape things.

**CATHY** Jazz is such a beautiful art form. How did you get involved in the Jazz world?

**WURZER:**

**PETE** I grew up in Kansas City, and just in junior high school, there was somebody who was playing some music that I  
**WHITMAN:** had never heard before. And I kind of, what is that? It's jazz. And so he directed to me to his saxophone teacher. What I started doing is just going to the library and reading about every jazz musician I could, and then going and trying to find recordings. And a lot of it that I was reading about, like Charlie Parker and Count Basie and Jay McCutchen, was happening or had happened in Kansas City.

**CATHY** I bet your mind just opened like a parachute?

**WURZER:**

**PETE** As a 14-year-old kid, it was a very great time to be motivated. And it really gave me kind of a sense of direction  
**WHITMAN:** and focus that I didn't really have before that.

**CATHY** Did you pattern yourself how you play the sax or the clarinet after any one particular musician?

**WURZER:**

**PETE** Well, I can even remember I was about 17, and I was just listening to the radio, and I heard this cut, and I  
**WHITMAN:** thought, Oh, Wow! What a beautiful tenor saxophone sound. And it was Joe Henderson recording. And then the very next cut was Swedish saxophone player-- not Swedish, Norwegian named Jan Garbarek playing with Keith Jarrett. And they're very opposing. One's more dark and intense, the other was more bright kind of color, a very different approach. And I'd been trying to play those both at the same time ever since. So.

**CATHY** And your style is beautiful.

**WURZER:**

**PETE** Oh, thank you.

**WHITMAN:**

**CATHY** It really is. I love listening to you. It's been fun kind of following you around the Twin Cities this summer because  
**WURZER:** you've been pretty busy. So I understand that you're going to be even busier because you're going to be the head of the JazzMn Orchestra. Did I say that right, JazzMn or jazz M-N?

**PETE** Well, yeah, I'm going to be the music director for the Jazz Minnesota. A big band that will be playing at Crooners  
**WHITMAN:** on October 8th with our very special guest Joey DeFrancesco on the organ. I have been playing with the orchestra since its inception, and I love the group. They're kind of going through some transitions, so I expect that they'll have several different MDs, music directors this season.

**CATHY** Part of what I really like about this segment here, Pete, is that we ask musicians what they're listening to, what  
**WURZER:** they're into. And it's fun to listen to them explain why a certain piece touches them. So I'm going to play another tune. OK, I'm going to try to pronounce this. It's "El Perseguidor." I think. Is that right?

**PETE** "El Perseguidor."

**WHITMAN:**

**CATHY** Got it. OK. This is by the Quintet Mississippi. Let's take a listen.

**WURZER:**

[MUSIC - QUINTET MISSISSIPPI]

**CATHY** I like it a lot. What do you love about this particular piece?

**WURZER:**

**PETE** Oh, well, it's kind of Coltrane meets Afro-Cuban music. And it was composed by Andres Prado, who's a wonderful  
**WHITMAN:** guitarist composer from Peru who happened to be in Minnesota for a couple of years, and he formed a quintet, Peter Schimke, Kevin Washington, Jeff Bailey and myself. It was the Andres Prado quintet, and we played his compositions, which were Afro-Peruvian.

And so this piece is one of his Afro-Latin modern jazz. And Andres basically just flipped us all out. He was such a great musician, and he had a different way of feeling time than maybe Brazilian and Cuban and some of the more familiar Latin jazz styles. It just blew our minds the way he would phrase, the way he played time, the way he would blend these cultures, bridge them together. And it became an amazing education for all of us that were in the group. And that group eventually became Mississippi.

**CATHY** Let me ask you, because, of course, you-- thanks for painting the picture of the group Mississippi and the various-  
**WURZER:** - and the musical style. Talk about just the Twin Cities as a place for Jazz, right? How is it evolving?

**PETE** I think the Twin Cities has become much more diverse in the last 20 years. And it's really making the music in  
**WHITMAN:** general grow in all kinds of different directions. I think there are a lot more African musicians and Latin musicians, and it's coming out in the music. So I think it's a very creative time. This area has always been really good about supporting the arts. And so there's a lot going on. A lot of live music and a lot of venues that do support live music, you know.

**CATHY** Which is great. Which is great. You can just see how the scene has really changed, you're right, in the past even  
**WURZER:** 10 years or so.

**PETE** Yeah.

**WHITMAN:**

**CATHY** And it's been fun to watch that evolution. You sent along something else with Chris Olsen. I'm going to play  
**WURZER:** another piece here. This is called "Life After." This is off the album *Changes We Can Believe In*. And this is with Chris Olsen

[MUSIC - CHRIS OLSEN, PETE WHITMAN, "LIFE AFTER"]

**CATHY** Now, this is bright. I like this. It's got some cool energy to it.

**WURZER:**

**PETE** Yeah. I guess "Life After" is kind of my way of dealing with my transition to older age. I want to keep going, I want  
**WHITMAN:** to keep taking chances. I don't want to slow down even though I'm sure I probably will have to at some point. But the form of the tune is there's a saxophonist named Kenny Garrett, who I'm very fond of. It's me trying to write a tune inspired by Kenny Garrett.

**CATHY** Oh, OK. Let me ask you something. I always wanted to ask this of a jazz musician. Because when I watch you  
**WURZER:** guys up on stage, you just seem like you are so enveloped in the music. So when you're up there playing sax, what do you-- are you thinking about something in particular or are you letting the music just kind of come through you, flow through you? I don't know, is there any thought process to what you're doing exactly?

**PETE** Well, the less thinking, the better. Because if I'm thinking, that's getting in the way of organic reaction.  
**WHITMAN:** Sometimes you're thinking about logistics. Where's the microphone or how's everything going. Is something going wrong? How do I deal with it? But if everything's going well, hopefully you're not thinking much. You're just kind of experiencing it. Because thinking usually will goof things up.

**CATHY** And it's clear that, as I say, when I'm watching, it's just this great picture of people that are immersed in the  
**WURZER:** music. And I love watching that. Thank you for that gift.

**PETE** Oh, Thank you. And I will say, for a live music performance, it's so much about the audience. All this COVID,  
**WHITMAN:** where we were doing some broadcast from venues without an audience present, it's just not the same. But as soon as you can just feel energy coming back, it creates an amazing cycle. That's, for me, what it's really about.

**CATHY** All right, I wish you well. Hey, thanks for stopping by and talking.

**WURZER:**

**PETE** Oh, well, thank you for having me. It's a great pleasure. I'm a fan of your show.

**WHITMAN:**

**CATHY** Likewise. Mutual fan club here. Thank you so much.

**WURZER:**

**PETE** Thank you, Cathy.

**WHITMAN:**

[MUSIC PLAYING]

**CATHY** What fun talking to Twin Cities musician, composer, and educator Pete Whitman.

**WURZER:**

**SPEAKER 2:** Support comes from MacPhail Center for Music. Offering in-person and live online group classes or individual instruction in over 30 instruments and voice. All ages and skill levels are welcomed. Learn more at [macphail.org](http://macphail.org).

**CATHY WURZER:** I think the Vikings are probably busy going through some film of last night's, yesterday's game, I should say, with the Green Bay Packers after their stunning season opener yesterday in Minneapolis. Of course you know by this time, they won 23 to seven. They are turning their attention to next week's Monday night game against the Philadelphia Eagles. Coach Kevin O'Connell, the new head coach, says he was thrilled with the win, but knows that Philly is going to be a tough opponent next Monday.

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Yeah, that was a fun Vikings game to watch. Green Bay and Aaron Rodgers just couldn't get it together. We'll see what happens again next Monday. What about the weather? Where are we now in temperatures? 70 degrees, mostly sunny skies in the Twin Cities at this hour. That's at the airport. High today should be about 75. What the haze, you ask? It's a little hazy out there. Smoke. Again, smoke from the wildfires out West. Not much to stir it up. North winds 10 miles an hour. Tomorrow's high about 82.