



## TRANSCRIPT

NOAA 2024 Atlantic Hurricane Season Outlook

Thursday, May 23, 2024, 10am ET

Hosted at the National Press Club

Media advisory about news conference

[NOAA to announce 2024 Atlantic hurricane season outlook](#)

Hurricane Outlook news release

[NOAA predicts above-normal 2024 Atlantic hurricane season](#)

Good morning, everybody, and welcome to the National Press Club here in Washington, D.C. as my glasses are fogging, it's a little humid here in D.C. for those of you who are not as. Yes, sir, as forecast. So thank you both to the reporters in the room for and those who are joining us virtually for today's announcement regarding NOAA's 2024 hurricane season outlook. I'm Lori Arguelles, and I am the director of strategic communications and partnerships for NOAA. And I'm happy to serve today as your emcee, along with my colleague Erica Grow Cei, who is the media contact for today's event. And you will be hearing her voice as she fields questions from the phone or from online a little bit later on. The news release and graphics related to today's announcement will be available on Noaa.gov shortly. And for those of you who are joining us online, this news conference is being recorded. So if you do not wish to be recorded, please disconnect at this time. We have about 15 minutes worth of remarks from our speakers, followed by a question and answer session with reporters.

We'll go to those in the room first, so be prepared. And our speakers today are NOAA Administrator Rick Spinrad, who is also the undersecretary of commerce for Oceans and Atmosphere. Our National Weather Service director, Ken Graham, is here, and FEMA Deputy Administrator Erik Hooks is joining us as well. And we have Matthew Rosencrans, who is the lead hurricane seasonal outlook forecaster here in the room for us as well. It is an honor to introduce the boss. He has held senior leadership positions across NOAA, including as NOAA's Chief Scientist and as the assistant administrator of the National Ocean Service and our research office as well. With that, please join me in welcoming Doctor Rick Spinrad. Sir.

>>:

Thank you, Laurie, and good morning to everyone. Uh, let's get right into it. And I'll start by saying that during previous outlooks that we've done, I have mentioned prior notable hurricanes as a benchmark of sorts. But as we look ahead, I think it's important to point out that past is, of course, not necessarily prologue when it comes to the hurricanes of the future. This season is looking to be an extraordinary one in a number of ways, based on our data and models. With the El Nino La Nina playing out a significant a significant role. The key this year, as in any year, is to get prepared and stay prepared. We're going to be emphasizing that throughout these comments. It's the best way to reduce risk, especially

the risk of potential loss of life. Our forecasters now are better equipped than ever, especially thanks to critical investments from the bipartisan Bipartisan Infrastructure Law and the Inflation Reduction Act. President Biden's Investing in America agenda has actually allowed us to enable rapid deployment of things like advanced water models, allowed us to build near real time, high resolution flood inundation maps across the country.

And we've also begun our path toward next generation radar. These investments are critical. We know communities can be devastated from the impacts of hurricanes. The associated wind, storm surge and flooding produced damage that affects local economies. It affects livelihoods for years after the storm has passed last season, even with most Atlantic tropical activity remaining offshore from the United States, tropical cyclones caused approximately \$4 billion in damages for the contiguous US and in the impacts of Hurricane Hilary added in. In the western US, that number rises to nearly \$5 billion. The Department of Commerce and NOAA continue to work with partners to prepare for future storms and respond to the economic impacts inflicted on communities so that they can recover more quickly in the aftermath of the storm. With the official start of the Atlantic hurricane season beginning next weekend, NOAA is prepared to support our nation today with the most accurate and reliable information and environmental intelligence for the official government outlook.

We will continue throughout the season to provide you with the official warnings and watches, of course, and our preparation for the season represents a whole of NOAA approach. I'd like to say just a word about what that whole of NOAA approach means. We recognize all of NOAA's six line offices play a critical role during, ahead of, and after a hurricane or tropical storm has impacted the United States. You'll hear shortly from Ken Graham, the head of the National Weather Service, on his office's preparation for the season ahead. I'd like to take just a moment to recognize NOAA's other investments and advancements related to hurricanes in all of our line offices, our research line office, the Office of Oceanic and Atmospheric Research, is going to put into operation this season. The sixth version of the Modular Ocean model, or Mom six, as we call it. When we couple that with the Hurricane Analysis and Forecast System, or HAFS, as we call it, which began running within the Unified Forecast System framework last year, Mom six is going to improve representation of the key role that the ocean plays in driving hurricane intensity.

Something I can tell you as a card carrying oceanographer warms my heart. I would add that this is just one example of a way our research and modeling efforts. However, to have good modeling, we've got to have reliable and accessible data. So NOAA's National Environmental Satellite Data and Information System, NESDIS, has end to end responsibility for developing much of the critical data that we need to produce the forecasts. Next month, the satellite goes You is scheduled to launch, which will provide atmospheric and oceanic data critical to our efforts to forecast tropical activity. NOAA's National Ocean Service supports and strengthens preparedness, response, and recovery efforts to improve community resiliency. NOS provides those critical coastal survey overflights which allow us to reopen harbors and ports and ultimately revive economies with great speed and efficiency. Our Office of Marine and Aviation Operations plays a critical role in obtaining data from storms while they are over the ocean.

In particular, our hurricane Hunter aircraft provide one of the only means for data directly for collecting data directly inside the storm. It's these data that provide the most improved outputs from our forecast models. And in fact, hurricane hunter aircraft data were critical to observing the rapid intensification that we saw of Hurricane Otis in the Eastern Pacific last season, which, as you'll recall, made landfall as a devastating Cat five hurricane near Acapulco, OMAO marine and aviation operations will continue to fly our P-3 hurricane hunter aircraft into storms for as long as we can, while also we are continuing efforts to secure critical funding that's necessary to replace our aging current fleet with updated planes. And NOAA's National Marine Fisheries Service is critical in the recovery efforts of after storms past, including things like assessment of reefs and the on the conduct of coral rescue and stabilization. These are key efforts to help marine environments and local economies recover.

Let me just say a quick word about our partnerships to that was my run through on the internal the introspective aspect. But preparing for and responding to hurricanes requires that we and NOAA work closely with our partners in the federal

government, the private sector, state governments, local jurisdictions, and, of course, NGOs and academia. And I'm delighted today to be joined by the FEMA Deputy Administrator, Erik Hooks, who will have an opportunity to share with you some of the perspectives from FEMA in just a few moments. Our two agencies know, and FEMA work very well together. We've got NOAA liaisons at FEMA National headquarters. FEMA has liaisons presently at several weather service centers, including the National Hurricane Center in Miami. We value our partnership with the US Navy to help fill critical observational gaps. For example, for example, by providing gliders, Navy gliders provide critical data important in improving our forecast models with inputs from data, sparse areas, and at times where it's hard to collect the kind of data that we need.

As we see hurricanes growing and strengthening. Last year, the US Air Force flew a total of 93 missions with their c-130js during the hurricane season, providing extremely valuable information from within storms coupled with our own P-3 flights. We also work closely with many other nations, including operating hurricane Hunter aircraft, our own hurricane Hunter aircraft from Barbados and Curacao. This enables us to safely reach and operate within locations including the Far eastern Caribbean, uh, areas that would otherwise be unreachable. These are just a few examples of the crucial partnerships NOAA values as we head into the 2024 hurricane season. So where do we stand today? NOAA's Climate Prediction Center issues. El Nino Southern Oscillation, or Enso, as we call it, forecasts and discussions. The official CPC forecast issued just this month indicates a 77% chance of La Nina forming during the August October time frame. We know the development of La Nina can lead to weaker easterly trade winds and below average vertical wind shear in the tropical Atlantic Ocean.

This type of environment can be more conducive for tropical cyclone development. Also, NOAA's National Centers for Environmental Information has reported record warm water temperatures for much of the tropical Atlantic Ocean. As you see here, forecast modeling indicates that above average sea surface temperatures are predicted during the peak months of the Atlantic hurricane season, from August to October. We know warm sea surface temperatures are an important factor in rapid intensification of tropical cyclones to major hurricane status, and that major hurricanes contribute significantly to the measurement of Ace. The accumulated cyclone energy Ace in past years, when we've seen high Ace numbers, those have historically been the years with the most destructive hurricanes. And this season, NOAA is forecasting the second highest ace for our May outlook. So, without further ado, let's dive into the numbers for this year's Atlantic hurricane season outlook. NOAA is predicting an above average 2024 Atlantic hurricane season.

Specifically, there's an 85% chance of an above normal season, a 10% chance of a near normal season, and a 5% chance of a below normal season for the range of storms expected, NOAA calls for the following 15, 17 to 25 named storms, with a top sustained wind of at least 39mph. Of these, 8 to 13 are forecast to become hurricanes, with maximum sustained winds of at least 74mph, and 4 to 7 are forecast to become major hurricanes. That is, category 3 to 5, with maximum sustained winds of at least 111mph. Of note, the forecast for named storms, hurricanes, and major hurricanes is the highest NOAA has ever issued for the May outlook. In addition, Ace projections range from 150% to 245%, which, as I previously noticed, is the second highest ace forecast to start a season, only behind 2010. With all of that said, I'd like to take a moment to remind you now is the time to prepare and stay prepared. Remember, it only takes one storm to devastate a community, and it's prudent to prepare now because once the storm is headed your way, it all happens so rapidly you won't have the time to plan and prepare at that point.

Before I close, I'd also like to give a special thanks to the very skilled and dedicated forecasters at the National Hurricane Center in Miami, who work around the clock to deliver timely and accurate forecasts each and every hurricane season, as well as the Hurricane Hunters, who fly hundreds of hours each hurricane season to support critical hurricane forecasting and research. I've done six penetrations of a hurricane and a P-3, and I can tell you my heart goes out to that team of brave aviators and the numerous members, of course, of the emergency management community who are so critical to protecting lives and property. The experts at the Climate Prediction Center who develop seasonal outlooks, including the hurricane season outlook, who are who use a number of tools to help decision makers, emergency

managers and the public when preparing for the season ahead. And finally, the dedicated forecasters throughout the National Weather Service who work around the clock 24 over seven 365, in every single US community to provide weather forecasts and warnings upon which every person in the nation depends.

The dedication of these public servants quite literally saves lives, safeguards our communities and businesses. We need this entire team, a top skilled experts, to produce the NOAA Seasonal Outlook, which is the official outlook for the federal government. And now it's my pleasure to introduce the head of the National Weather Service, the director Ken Graham. Ken, the floor is yours.

>>:

Thank you, Doctor Spinrad. I appreciate everybody being here and everybody took that in. Right. Those numbers, I mean, that's the highest forecast that we've had. So all the ingredients are definitely in place to have an active season. Um, and, you know, it's reason to be concerned, of course, but not alarmed. Okay. So we need to use this time to, to our advantage to, to really be prepared for the hurricane season. And if you think about a hurricane threatening, um, definitely got to take the time to plan and be ready for it. You know, once it's headed your way, it becomes really stressful and you need to be ready way ahead of time and especially under short notice. And I want to call out somebody. I want to thank Matt Rosencrans right there at the end of the table. Um, you know, there's a lot of computers that crunch this stuff. And, you know, we work across all the line offices to come up with these, the numbers that, that you've seen. Um, but Matt leads that effort. So Matt goes through this.

He, he really looks at everything. And those, you know, he comes up with the final numbers. So I'll give you a big old shout out for your leadership and making sure we have this done. You don't always get to see the folks behind the scenes, but nothing runs without people like Matt. So thank you very much. And all these fancy numbers and stuff. There's a human behind this stuff, so appreciate it. So you heard the seasonal forecast for 2024 and it's expected to be busy. And a couple reminders. You know you look at these numbers and you've heard I've seen a lot of familiar faces. You've heard me thousands of times say some of these stats. But we need your help. We need you to help us communicate what the real impacts are. So we need the folks in the media, emergency management across FEMA and the emergency managers to really remind people what the actual impacts are. And it's important to keep talking about these every season. So busy or not, it only takes one storm to make landfall or one to even get close to you to be a busy season, right?

So there could be many storms like we're predicting, but it's that that one that reaches you and that could be a busy season. So we need everybody to be completely prepared. And I think it's important to remember it's about the impacts, not the category. And everyone's heard me say that a lot. The Saffir-Simpson scale measures the wind, right. But it's actually those other impacts. It's the water. Please help us communicate the dangers of water. This is a very critical thing. I've 30 years been saying this and we're making headway on this, but we need you to every single year remind people. And we looked at 2013 to 2023 to really reevaluate some of the numbers and where we see the most fatalities. 90% of fatalities result from water. And if anybody wants to make the bumper sticker, I'll start putting them on cars. Across this country, 90% of fatalities occur from the water. Okay. Most of those are fresh water from heavy rain, rainfall, 57%. And if you take the fresh water, you take half of those.

Those are in automobiles. It's preventable. Okay, so turn around. Don't drown. We need to keep spreading the word about those and how people lose their lives in these storms. Uh, 41 storm surge fatalities took place in Hurricane Ian. And that's a reminder of the great loss of life that we can get from these big storms and storm surge historically. And you remember, for a long time we talked about storm surge causing the most fatalities. We've talked about that. We worked really hard to really get the word out on storm surge. In fact, we actually have a special warning out for storm surge separating the storm surge warning from the actual wind warning. And we've actually reduced fatalities from storm surge because we were allowing officials to evacuate vulnerable areas earlier. The threat is still there, but we're

actually making a dent in this. We have a lot more work to do. Since 2013, we've seen more fatalities from surf and rip currents than we have from wind and storm surge. Okay, so let's keep spreading the word about the rip currents.

Don't be out there in the water when these systems don't surf. Taking advantage of the big waves. Let's not do that because we're losing people every year. So help us spread the word on that as well. So remember, you always got to run from the water, hide from the wind. Impacts aren't just coastal, they occur well inland. So those in the media well inland. Please spread the word that, you know, these tropical systems is not just a coastal thing. You get a lot of impacts inland. And look at the stats. You look back at certain hurricanes. I was thinking about it yesterday. We've had more direct fatalities during Hurricane Camille in Virginia than we did where the landfall was in Mississippi. That was a category five. It was that inland rain. So we look at even more modern, more direct fatalities during Hurricane Ida in New York City than we had in Louisiana, or the direct impact was there. However, we had more indirect fatalities in Louisiana following the storm. Right. The dangers aren't over once the hurricane passes.

And that's something we need a lot more communication on as well. Look at Hurricane Florence, North Carolina, South Carolina. And I know, Eric, you're familiar with that storm. Very close. When you were in North Carolina, you know, 100 miles inland, we had river flooding and heavy rainfall, flooding where we lost lives hundreds of miles inland. Okay. So hurricanes impact far beyond the coast. Be aware and prepared no matter where you live. The threat isn't over after the storm. I can't stress this this enough. And we look. Since 2013, the direct fatalities from these tropical systems direct were 455 from the rain, the storm surge and the wind. Indirect fatalities during the same period of time 418. You see what I'm saying? So think take that in. When you think about the dangers aren't over when the storm passes. And a lot of those fatalities are just clean up. Right. It's going out too early. Please listen to those local officials. They know what they're talking about, right? Listen to those local officials.

And a big one. You look at Hurricane Laura. You think about a category, the category that we had there. We had an 18 foot storm surge in Louisiana. We lost more people from improper use of generators than we did storm surge. Please help us remind everybody to use generators correctly outdoors, not indoors, away from open windows and that sort of thing because we lose a lot of lives from these things. So that's a big one that that we need to remember. Another one is and I and I know people have heard me say this before, you know, what these these storms, they don't really care about your timelines. You know, we have a lot of timelines in this country on how we evacuate and how we get ready. And you look at statistics and you look at rapid intensification. You look at some of these storms. These tracks have been remarkably accurate. Right. You look at our accuracy. It's been incredible. The intensity is catching up. And we've made some big strides in the last 4 or 5 years in intensity.

In fact, you look at the last few years, Hurricane Center's made incredible, accurate predictions from these rapid, intensifying storms in advance. So not long ago, we didn't think that was possible. But we're doing it right. It's the data going into it's the Hurricane Hunters. As Doctor Spinrad mentioned. It's a remarkable how far we've come since the year 2000. We've cut the track error by 64%. We've cut the intensity error in half. It's not bad, right? A lot of investments go into that to make that happen. But here's what I really want you to remember. And I just took category fives. I could look at fours. I can look at all the strongest storms, every category five storm that made landfall in the United States in the last 100 years. Ready? It's a tropical storm or less three days prior. The big ones are fast, right? You look at a season like this where, you know, you could you could see some pretty strong storms with this forecast. The last 100 years, every single one of these big storms cat finds were a tropical storm will last three days prior, and several didn't even exist three days prior.

All right. That's why I'm saying they don't care about our timelines. Preparedness is absolutely everything on those category fives. The average lead time is 50 hours. Preparedness. Got to be ready for these storms. We got some new things I'm proud of. We got a new cone. What do you think of that? That's a that's a hot topic. Everybody likes to ask, right? Everybody's like what about the cone. There's always questions about cones. So I'm proud to say we're doing something about it. You can't you can't just go wild with the cone because everybody does recognize it. So we're trying

to improve it with based on feedback. Remember the cone itself is a cone of error. It's where we think the center of the storm is going to be two thirds of the time. What about the other one third? Outside the cone. Right. So it's a statistical analysis of where we think the where the storm is going to be. So what we're trying to do here and here's an example of it on the screen. This is a new cone. So you're going to still have the cone of uncertainty with the statistical analysis.

But at the same time we're also going to put our watches and warnings. We're going to put the impacts on the map. And this is a way that we can show everyone in the public and give everybody in the media a graphic to show, to say, wow, there's sure a lot of impacts outside that cone, right? The graphic is so powerful because it means more than me saying, hey, there's impacts outside the cone. Okay, fine, but now you can see it. Okay, so this is experimental. We're going to try it this year. I'm super excited about it. So you can see look how big the impacts are and how many of those impacts are outside the cone. The other part of it is the Spanish language translation using artificial intelligence. I you know, for for decades we had people in Puerto Rico, San Juan, translating our tropical products into Spanish. Now we're partnered with a company called lilt, and we're actually using AI to be able to to be able to translate that. Right, right. As we go fast. And that's important. And we have humans that get in there and correct it.

And then the AI remembers that correction. And there you go. It's able to to fix any errors that we have because there's a lot of dialects. When you look at all the countries we serve across the globe. So I'm going to wrap it up. Got to be prepared as the big takeaway. And uh, hey, we're getting ready. How about you? Right. So let's get everybody ready for this hurricane season. We've been through some pretty tough seasons. We're going to get through this without a doubt. And uh, speaking of being ready, we think about what FEMA does for a living and an incredible partnership that the Weather Service and NOAA has with our partners at FEMA. You think about federal agencies working together. We're side by side all the time in what we do, and it's just a really appreciate that relationship. So I want to hand it off to my friend, FEMA Deputy Administrator Erik Hooks.

>>:

Thank you Ken. Thank you for our long standing friendship and partnership. Good morning, and thank you, Doctor Spinrad, for hosting us here for this important event. The relationships run deep and they're very important to the American people. Again, I'm Eric Hooks. I'm the FEMA deputy administrator. Uh, Administrator Criswell is on the ground in Iowa today surveying the damage from the storms that took place a few nights ago. Uh, our thoughts and prayers are with those who lost loved ones. And we keep those communities in the Midwest in our thoughts as they begin their recovery. Concerning today's topics as severe weather events, including hurricanes, continue to increase in frequency and duration. The collaboration between FEMA, NOAA, and the National Weather Service is more important than ever. I also want to acknowledge the journalist and the media who are gathered here today for this critical work. As you continue to amplify the life saving, life sustaining messaging that's needed across this nation, especially when we head into this year's hurricane season.

Also, especially because with intensifying storms, we may have less time to warn communities. Time is of great value, and we need your help to leverage every minute to keep people safe. We're just over a week out from the 2024 Atlantic hurricane season, so we're getting down to the wire when it comes to ensuring communities are prepared for whatever lies ahead. So before hurricane season officially begins, my message to the American people is this. Take time to make sure that you have a clear understanding of your unique risk now. Do you have medication that requires refrigeration? Do you have a medical device that requires electricity? Do you have mobility challenges that make evacuations harder? Now is the time to ask yourself these questions. Understand your risk and put a plan in place so that you're prepared when disaster strikes. That's what resilience is all about. It's about anticipating risks, taking steps to mitigate them, taking action, which in turns helps jump start a recovery after the emergency passes.

And let me remind you that hurricanes and tropical storms aren't just for coastal communities. You heard Ken, uh, Jim, have a tremendous expression about how the impacts can go far beyond the actual impact of the storm. These storms like Hurricane Ida and Hillary. Can have significant impacts hundreds of miles inland. Ken and I also lived this through.

Hurricane Florence back in 2018, in a prior post that I had. Impacts far extend beyond coastal communities. So all of us from the federal level, tribal nations, state, local communities, and at the individual level need to start getting risk ready today to ensure that we're prepared for tomorrow. You might be wondering, what is FEMA doing to prepare for hurricane season? Well, I'll gladly tell you. Earlier this year, we opened a new distribution center in Greencastle, Pennsylvania, tripling our capacity and better positioning us to rapidly deploy along the Mid-Atlantic and northeast. Because, as I said before, time is of great value in the response and recovery process.

So this hurricane season, we're going to pre-position earlier than we ever have before to reach people even faster. We delivered hurricane readiness training to over 4000 emergency managers throughout our through our partnerships with NOAA and the US Army Corps of Engineers to ensure that we're in lockstep with our partners on the ground. We've made historic updates to the way individuals and families can receive our assistance to increase flexibility in our programs and jumpstart recovery more efficiently. And we're working with communities to better understand their risk and be in the know when it comes to their evacuation plans. We want people to know where to go, what to bring. And where to get good and trusted information. Everyone here today and everyone listening in has a critical role to play, making sure our families, neighbors and communities have what they need. To stay safe this hurricane season. If you haven't done so already, I ask that you take some time over the next few days.

Really take some time right now. As soon as this conference is over, to think about what you need to do to protect yourself, your loved ones, and even your pets. Should a hurricane head your way this summer, don't put it off. The time to act. The time to prepare is now. So with that, I'll turn it back over to Lori and thank you for having me today. Thank you. Deputy Administrator Hooks, before we move on to the Q&A portion, I want to again thank and acknowledge Matt Rosencrans, our lead hurricane seasonal outlook forecaster with NOAA's Climate Prediction Center. And note again that Matt is available to answer questions about the science behind the hurricane outlook. We'll begin with questions from reporters in the room. Um, please raise your hand, and a member of our team will bring a microphone to you. For those of you joining us by webinar, you may ask a question by using the Q&A feature within the platform. And my colleague Erica Grow Cei will announce the questions as they come in.

If possible, please let us know who your question is directed to, and we'll do our best to answer all questions in time. Available in the grand tradition since we are at the National Press Club. Um, I will go to our wire reporter first. Um, the, dare I say, the male Helen Thomas. I'm not quite sure. Seth Borenstein.

>>:

Uh, Seth Borenstein, associated Press, uh, this would be for Ken Graham, um, The Atlantic, which is one of the two factor major factors you mentioned. How concerned are you that it is so record breaking or, um, month after month after month, ad nauseum? What? I mean, it's more than what many scientists say is climate change. What are the factors going in here? And I guess one more for Matthew, which would be how between the Enso, the La Nina and the warm water, which of those is usually is the bigger factor in this forecast and is that different from previous forecasts? Okay. So I think we'll start we'll invite our, um, uh, guests to the podium. Uh, Doctor Spinrad, Ken, and then Matt. Yeah. Thank you. Seth, I'm going to take a, uh, say, a 60,000 foot view. Your question? Uh, one translation of it is talk a bit about the breadth of implications of the extraordinarily high temperatures we're seeing specifically in the Atlantic. Um, and, and can and Matt can talk about some of the specifics with respect to tropical cyclone generation.

I will tell you, we worry about it. NOAA on a very, very broad basis, uh, because the implications are for the whole set of dynamics, physical dynamics in the ocean. So the warmer ocean means it's a more energetic ocean. So all of the kinds of products and services that we develop through the Ocean Prediction Center, for example, are going to be impacted. And that impacts things like commerce, optimal track, ship routing, what's going to happen in the Central Atlantic? There are implications associated with changes in what we call the Atlantic Meridional Overturning Circulation that has broad, broad weather and climate implications for Europe, for Canada, for a number of areas. I'd also point out that the warm temperatures are something of specific focus and concern for the National Marine Fisheries Service, because these have

implications for not just things like coral bleaching, but also changes in distribution of critical species, including those of high commercial value. So are we going to start seeing, uh, species moving around?

We're also already suspecting some of these temperature changes are having an impact on migration patterns for large whales in the Atlantic. So as the NOAA guy, I will tell you, this goes well beyond the weather implications. But coming back to the central focus of this discussion, I'd be glad for, uh, Ken and Matt to add to that. Yes. I appreciate you bringing that up, but it's just, um, you know, I've seen a lot of seasons where you'd have all the warm temperature of the oceans warm, but you have a situation where you have too much shear or you see, you get, you know, you have a situation that the water is warm enough to provide that energy, but you don't get an active, uh, you know, African monsoon. So you look at this forecast, what goes into this forecast, it's all coming together. And Matt has all the details of that. So this is a situation that you combine factors. So it's not just one factor. Everything has to come together to get a forecast like this. So you know you have your warm all the energy in the oceans.

We have an active African monsoon. So check, check. Uh don't expect a whole lot of shear check. So you really look at all these all the different patterns and they all come together to make this big forecast. So the big reminder here is it takes all of those to come together, all the ingredients to come up with a forecast like this. I've seen strong storms hit warm water and weaken only because of shear. So all those factors have to come into that. And I think one of your questions was, what's one of the biggest factors? I'll probably leave it to Matt, but my experience on the ground on the desk is that shears everything. You know, if you can have all the ingredients you want to, if you get wind shear, it's going to knock the top off that storm and it impacts what the forecast is and of course, the strength. Yeah. Matt, do you want to add anything to that?

>>:

Yeah. So you asked about the relative importance. The warm sea surface temperatures in the Atlantic really did contribute to the higher end of this outlook, where the La Nina reducing that wind shear in bulk really lets those temperatures the active, the warm sea surface temperatures and the West African monsoon influences really kind of shine through. Um, so and it's really mostly a lot of those wind shear changes happen in the western part of the basin, the Gulf of Mexico and the Caribbean. That's where those most notable wind shear reductions that allow those storms that Ken just talked about to kind of really stay together. So those are the kind of major factors in the season. Um, we've retrained some of the regressions this year. And when I do that, the sea surface temperatures in the Atlantic and the El Nino or La Nina conditions, they actually have about the same amount of weighting in those regressions. So any given year they're about the same. And they explain about 35 to 40% of the variance, each one of them.

Okay, our next question.

>>:

Good morning. Excuse me. Good morning, Miri Marshall from WUSA9 here in Washington, DC. A question for NOAA and a question for FEMA. Um. Excuse me, how concerned are you all about rapid intensification this year? You mentioned earlier that you've got about 50 hours. That's not a lot of time to do a lot of evacuating. Just how concerned are you all about it, given the warm ocean temperatures and the wind shear? And for FEMA, are there any special funds set aside for Gulf states? A lot of these communities are having a hard time either obtaining insurance or paying the higher insurance cost when it comes to tropical systems. Is there anything additional set aside for potentially from Texas up through Florida that may be impacted most? Now we know that it can go inland, but just those areas are usually kind of especially Florida in the way of it. So my answer about, you know, how concerned about the rapid intensification. It's an interesting answer, honestly, because I worry about that every season.

Now, you go back to 1992 when you, you know, you had a strong El Nino year. We didn't have any storms, but we had Andrew, a category five where it was rapidly intensifying. So, you know that the stat that I had about every last 100 years, every all the strongest storms, the cat fives have all been rapid intensifiers. So that's a powerful statement. So



every single season I absolutely worry about those mainly from a FEMA perspective and emergency management perspective. You work timelines. So you practice, you exercise, you exercise these timelines. At this point we're going to do this. We're going to open shelters. At this point we're going to look at evacuations. So you work that timeline and it's comfortable when you work the exercise at 72 hours 120 hours, that's real comfortable. But the reality is the big ones may only be 50 hours. So absolutely concerned. And that's why we have to really let folks know you got to be ready. So you can't wait till the wait till the storm surfaces, because you may not have the time.

Then you're competing to get water. You're competing to you're getting the big long lines for evacuations, the traffic. So the earlier you could prepare the absolute better. So the answer to that is interesting I worry about that every single year because the timelines are cut short, if that makes sense. So we got to be ready. Yeah. Eric. Thank you for the question. Certainly echo Ken's sentiments. We firmly believe that all disasters begin and end locally, so we are well partnered with our state, local tribal partners in local communities, particularly in the Gulf Coast. They are very experienced. We are very well partnered with our state emergency managers and other state and local leaders in that area to prepare before a storm comes. So FEMA's ultimate mission is to prepare and be ready before, during and after disasters, not just at the time of response. We do want to have speed to need, but there is a lot of preparation work and we and there has been a heavy focus within the last few years.

Thankful for congressional appropriations, for mitigation dollars that have flowed to those Gulf communities as well for the entire response season and throughout the year, we rely on the disaster relief fund. And so those appropriations for response would be available to those Gulf states. And again, we're well partnered with them. We have ten regional administrators all across the country and a very experienced regional administrators down in those areas as well, to assist those state and local governments and tribal governments. Okay. Other questions from reporters in the room? Yes. Here in the. In the front and other side. She'll get the. There you go.

>>:

Good morning. Thanks for holding this briefing. I just wanted to make sure I understand. Are you saying that you have never issued a forecast this alarming? In the past. And I'll also add a second question. And that has to do with more specifically, you mentioned how infrastructure could be affected, shipping and that sort of thing. Have you do you have any thoughts on how this could affect infrastructure along the coastlines, such as LNG export terminals and other infrastructure? And this may be two questions for two different people. Thank you. Ken, why don't you start? And I think Doctor Spinrad might have something to add. And then Deputy Administrator Hooks as well. So, yeah, you heard it right. But I just urge let's watch how the terminology we use this season, because that forecast is the greatest number of storms that we're, we've forecast. Right. So we've got to you know, we have a responsibility. All of us just let's keep everybody calm out there. Because we've been through a lot across the country, a lot of storms.

We're dealing with Iowa. The FEMA administrator is now we've had literally you know, you look at our severe weather warnings, we're well into the, you know, 4000 if not 5000 warnings this this season. So I think, um, yes, it's the highest number. But at the same time, let's bend it really quickly as a community to say is about being ready, right? Because social media is going to take this and there's going to be a lot of terminology like, like alarming and some different things like this. So I think that a big responsible we, we have to say this is the greatest number. So now is the time to be prepared. See that linkage. So I'm going to try to use that terminology as much as possible. I know the hurricane center is going to be doing the exact same thing. But yeah, the greatest number that we forecast. Yeah. Uh, let me say a couple of words on the infrastructure question, then ask Deputy Administrator uh, hooks to join us as well. Uh, so, yeah, the impact on ports and harbors and coastal communities, for that matter, is something we look at very carefully.

So parts of the products and this is this is the advantage of the new cone, uh, depiction that Ken alluded to is being able to understand what storm surge, what wind and waves look like and what they're going to do to these facilities. But I also want to point out, as we saw manifestly, in the tragedy associated with the Key Bridge in Baltimore just last month, that we have a post disaster response ability as well, and that is to make sure that navigation can continue safely. And in

the case of the Key Bridge, because we had navigation response teams that could go and survey the area, we were all able to open a navigation channel within days after that bridge collapse. So similarly, when we see this kind of impact on coastal communities, especially our major ports in the coasts, we want to make sure we're able to deploy and do the kind of survey work with our colleagues in emergency management to ensure commerce can continue apace. Eric, would you like to come? Thank you sir. Thank you, ma'am, for the question.

Uh, FEMA works extremely well and in very close contact with the Coast Guard who have captains of the port to as well to monitor critical infrastructure. And you may have heard us use the term in previous times about the whole of community. It really does take the whole of community. Most of the critical infrastructure in the United States is owned and operated by the private sector. So the business community, the private sector as well as faith based communities all have a role to play in ensuring that they have fortified their structures to the best of their ability. Yes, certainly we are concerned about critical infrastructure that falls in line right behind the life saving, life sustaining work as well. So that is also a particular focus for us. And we, uh, effectively try to network with all partners, not just at the federal level, but again in the private sector and with our local partners to assess the unique risk of those communities, port communities, as well as inland communities to effectively respond and efficiently recover from any impacts.

I think we have one more question from the room in the back.

>>:

Hi there. Um, I'm Julio Chavez with Reuters. Uh, a question in general about communication approach, um, covering, uh, Hurricane Ian. I met a man in Matlacha, a small island that was practically almost wiped off the map. Um, and he could hold two these two thoughts separate in his head. One was the ocean is getting warmer because his son was in the Navy, and his son had told him. Yeah, dad, the ocean is getting warmer. He could also acknowledge that warmer waters mean stronger storms. However, the instant you mention like, well, because the ocean is getting warmer, the storms are getting stronger. He would completely shut down, refused to acknowledge, accept it, entertain the idea entirely. What communication strategy do you all have to be able to engage with communities, um, that aren't able mentally like it? Really? It was extraordinary to see it was it was just not connecting at all. He was refusing to acknowledge it. Um. What's the communication strategy for these communities? Especially some of them live in coastal areas?

Yeah. Thank you for the question. Communication is obviously critical. And as several of us have conveyed in different points, we could have the state of the art, absolute spot on, perfectly accurate forecast. But if we can't communicate this information, then people can't make the decisions that they want. Speaking for NOAA. I will tell you, we take a many faceted approach towards communication. One is obviously making sure that everybody has access to these wonderful products, um, and, and services and also hearing what they need. So translating the science into action oriented recommendations, if you will. Or decision aids is part of the communication. So understanding how to do that work with the private sector as well because there's a strong private sector component, provide information to users. But the other thing that I would say in many respects it is the special sauce, if you will, is that NOAA has boots on the ground throughout the country. So we have our production centers, and then we also have weather forecast offices, river forecast centers around the country.

We also have sea grant extension agents on the pier in the community. We have, uh, climate adaptation partnerships with many of the academic communities. So we're not just relying on us as the federal government conveyers of information. We're working with our academic partners, our private sector partners and local communities. And through that multi pronged approach, we hope we can convince people to take the information we're providing and take appropriate action.

>>:

John. Thank you, Doctor Spinrad. Absolutely correct. And I just another reminder of what you ask is, is so important

because there's a social science perspective here, right? I mean, we focused so much on the physical science here with the with the outlook. We talk about a lot of that that part of the science. But I'm telling you, you know, 30 years of doing this, the social science part of it, the communication part of it is as important as the forecast. So the social science says a couple of different things. I mean, you've heard me a million times say, listen to your local officials. If they tell you to have supplies and leave, do so. Well guess what? A lot of people in this country can't do that. You know, they don't know where the next meal is coming from. Right? So it's how do you work those type of issues ahead of time from a local community standpoint? The other part of it is you look at the social science part and you start talking like just what you said, people will shut down.

The human nature from the data that I've seen of some of the studies. And by the way, we've hired social scientists, you know, the weather service employees, social scientists. We have several. And we really directly work on the communication part of what we do. And the data shows that if somebody gets too much information, do you think they'll be overprepared? They shut down. If they get multiple sources of information, they get too much information. The average person will actually shut down and they won't know what to do. Right. So you really try to look at that's why we spend so much time doing things like this today, to make sure we're all on one page when it comes to the forecast, seasonal and the forecast in the heat of the battle as well. So, so much focus on the impacts, so much focus on not necessarily the category. And the other part of this is, um, two different social science parts. We have to add that there's another thing that we need help with. People will anchor on the first piece of information they get.

Humans do that. In other words, you'll start looking at a forecast 50 hours out, 70 hours out, 100 hours out. Somebody will lock on to that forecast and not look at the updates. So we have to keep reminding people, look at the latest information, it changes. You think about a rapid intensification situation. That forecast could be very different six, seven, eight, ten hours later. So we really urge people to really get the latest part of that information. So social science is a big part of what we do. So thank you for that. And we need help keep communicating those impacts. Again, thank you for the question. Great question. And I'll amplify what my colleagues have already stated. One of the things that we certainly know at FEMA is that people receive information in a variety of ways. This is an important mechanism for the entire nation to receive information. But there are some individuals that may not gravitate toward mass media or, you know, a statement from me coming from a microphone.

So we endeavor to be well partnered in communities that want to know those communities, to help them assess their risk, to identify trusted leaders, trusted voices in those communities. Those may certainly come from municipal business leaders. They may come from elected leaders that are closer and to the localities they may be from business leaders. They may be from faith based leaders, too, as well. So again, a whole of community approach requires everyone to get this information, to absorb it and to pass it on to those loved ones, those people you care about. Because ultimately, we want to get in a position where we don't lose lives unnecessarily, and there are some very hard to reach populations and people that have a particular view of, well, I've lived through this for X amount of years, but as Ken has said, and Doctor Spinrad has said before, it only takes one storm. And so we try mightily to reach every community to ensure that public safety carries the day. And we do use the science and data to drive our actions.

But we also want to use trusted voices in the community to reach people all across America.

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Have religious communities been receptive to this effort? Absolutely. We have robust engagements with religious communities, and they are at the forefront of providing messaging, holding community meetings and getting messaging out to people that not only attend their faith based institution, but to all people in communities. So we found that to be a very, very valuable resource for us. Thank you all. We have about ten minutes left in our time together today, so let's go to our online folks. Erica, I believe you have a couple of questions queued up.

>>:

That's right. Yeah. Our first one is coming from Scott Dance from the Washington Post. He's directing this one to Matt. The forecast suggests that this season could come close if not surpass the activity of 2005. How does the outlook of this season compare to the outlook then? And he wants to know some of the elemental kind of things, like where the water is warmer. Um, and if you can touch on, uh, how much heat is in the main development region, because we've gotten several questions about that as well. That would be great. Yep. So the outlook for this year is it definitely has higher ranges than we had forecast in 2005. Again, these are the highest ranges we have forecast. Um the sea surface temperatures and the main development region right now are 1 to 2°C, or two to 3.5°F above normal. They are equivalent to what we would normally see during August, and they are dramatically warmer than in 2005 and even 2010, which is another one of our large analogs to this. Um, and can you repeat the rest of the question?

There's a lot in there. Yeah. Um, we've gotten several questions about ace and about the amount of heat in the main development region. People want to know if that is the main contributor to this outlook, or if can you pin down one particular thing that made this outlook the biggest that you've ever had, or is it the confluence of factors? It's really the confluence of factors. All the things that Ken talked about and Doctor Spinrad talked about the active West African monsoon, the coming La Nina. It really does take kind of these most of the planet circulation changing to really and aligning to really get these kinds of numbers to have the potential even for them. Um, the local sea surface temperatures in the Atlantic, again, they are record warm. They are also the main development region, and portions of that are 120 days ahead of right now. They're ahead of schedule where they would be for later this year for portions of them. Um, and that can have a lot of implications for both early season and late season activity.

And that longer season is typically what we see of these busy seasons as well. They are they're not they're linked. They're not separable. On those two things. You're not. It's the longer season and the bigger seasons are usually because of those longer seasons. Um, we do have a similar question that is appropriate for you, Matt, before you walk away from the podium from Amy Green of Inside climate News, who wants to see if you can talk about ace in layman's terms? Yeah. So ace, the accumulated cyclone energy, um, is you take the measurement of the wind at every advisory that comes out from the National Hurricane Center every six hours. So zero six, 12 and 18, uh, Zulu time or Greenwich Mean Time. You take that value, you square it, and then you add that up throughout the entire hurricane season. Um, we divide by 10,000. So that way the number is not so large, um, because otherwise it just has lots of zeros at the end of it that you don't really need. Um, so that's related. And it's a really good measure of the amount of energy.

Um, it goes back to our physics classes where energy is the square of the speed, so we just square the speeds. It's a really good relationship. Just from any physics you took in your basic high school. And we apply that to the entire hurricane season. Thank you. Matt. Our next question is going to be for Deputy Administrator Hooks. This is from Sophia Schmidt of WHY? Uh, Sophia would like to know if you can give some specific examples of steps that people can take to prepare, especially if they have medical devices that require electricity, mobility challenges or medications. Sure. Thank you for the question. Yeah. First of all, we want to make sure that that your local emergency management, your local community knows where these individuals may live. So that we so that they in first responders can respond to them in a priority manner that may meet their unique needs to as well. It also will provide information to your local emergency managers and your first responders so that they can help tailor a evacuation.

Plans for you can help tailor what hospital needs you. You might have. Identify shelters and places that may have backup generators that can support your medical devices and your particular unique medical needs, or your mobility and functional needs as well. All right. If there are no further questions from online. And is that that correct, Erica? That's all we have time for. It's 10:57 a.m.. Okay. Um, if there are other questions that have not been able to be answered, um, just reach out to Erica and she will be happy to help connect you up. Uh, you can reach her at NWS standing for National Weather service.pr at Noaa.gov. Um, I want to thank again all of our speakers today. Uh, Doctor Spinrad, FEMA Deputy Administrator Hooks, and National Weather Service director Ken Graham, and, of course, our lead hurricane forecaster,

Matt Rosencrans. Um, as a reminder, the release for today's announcement is available at [noaa.gov](http://noaa.gov) and a recording of the event will also be added to the news release later this afternoon.

So that does conclude our press conference. Thank you for joining us and have a great day.

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