

## WEATHER

# Changing climate expected to bring more severe rain, stronger storms to Sunshine State



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Expect more record heat and crippling humidity in the coming years as warming weather patterns are expected to continue for the Southwest Florida region.

That was one message from the first day of a climate summit being held in Fort Myers and online by the Coastal and Heartland National Estuary Partnership, or CHNEP.

"The climate is already rapidly changing worldwide," said CHNEP director Jennifer Hecker. "Human influence has warmed the atmosphere, oceans and lands."

CHNEP covers all or parts of Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Polk and Sarasota counties.

**Preparing for summer:** Warmer months mean many of Florida's majestic animals are on the move

**And:** Florida request to drop wetland permitting challenge denied by judge

State climatologist David Zierden, also a professor and researcher at Florida State University, talked about rising temperatures, extreme heat, extreme rain, drought and sea level rise.

"Climate change is not bringing new weather or climate threats," Zierden said. "These are the same threats we've been dealing with as a society all along. But there's growing evidence that we're changing the nature of these events. And there's no slowdown in sight."

Zierden said carbon dioxide, or CO<sub>2</sub> levels are higher than they've been in millions of years, according to ice sample cores.

"This is the grand experiment with the planet, and we're not really sure where it's going," Zierden said. "Each of the last six years have been among the six warmest ever."

Zierden said the warming is not distributed evenly across the planet or even the state of Florida.

"We've seen a very abrupt warming in the state of Florida over the last five to eight years," he said. "Seventy-eight of the last 83 months have been warmer than average, and that includes nearly three years without cooler-than-normal temperatures."

**Wildfire season in Florida:** La Niña pattern leaves the landscape dry, crispy

**Aerial acrobatics:** Swallow-tailed kites return to Southwest Florida

The Panhandle and North Florida are seeing increased temperatures faster than coastal areas like Southwest Florida as ocean breezes help stabilize afternoon highs.

"North Florida and the Panhandle are more prone to extremely hot days," Zierden said. "In South Florida, where we're surrounded by water and get the sea breeze, the temperature is significantly less, but when it's combined with humidity, there are still problems."

Elevated temperatures will lead to an increased risk of heat stress and stroke, and it will impact everything from livestock to construction and agriculture workers.

Zierden said Florida hasn't experienced a change in the overall amount of rainfall, but it rains less frequently and the storms are stronger.

"We're not seeing a change in the amount of rainfall but we are seeing increased frequency in extreme rainfall," he said.

As for sea levels, Zierden said the Naples area has shown a 9- to 10-inch rise in seas over the course of the past century, according to data gathered by the U.S. Geological Survey.

"And the latest report says we can expect another 10 to 12 inches in the next 30 years if we don't curtail our emissions," Zierden said.

He said the number of hurricanes may not change much, but storms will likely be stronger and that there will be a greater risk of inland flooding.

Scott Prinos, with the U.S. Geological Survey's Davie office, said climate change will increase the impacts of rising sea levels, and that the state will be more vulnerable to large storms, heavy rains and flooding.

He said saltwater intrusion is becoming more of a problem as the seas warm and continue to rise.

Saltwater intrusion has already made some water utility wells in South Florida useless.

He said setting up a system that consumes reused water helps because it allows more freshwater to stay in the aquifers.

That freshwater pushes against the advancing saltwater.

"Where water reuse has been extensively used, it can help reduce withdrawals," Prinos said. "That can help (fight off saltwater intrusion)."

Jayantha Obeysekera, a Florida International University professor and researcher, talked about the hot and humid conditions Floridians and visitors will see in the coming few years.

"Maybe the hydrologic cycle can be on steroids with warming," he said. "Warming gives you more moisture and can result in higher extreme precipitation. This has implications for the ecosystem, human health, agriculture and economics."

Presentations will continue Friday in-person and online. You can register here for the event.

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