

# Georgia, Southeast among the most at-risk from climate change, report finds

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In the high-stakes fight against climate change, the United States—and the planet—are at a moment that is both hopeful and harrowing.

U.S. emissions of greenhouse gases have fallen, even as the country's population and economy grow. Since 2018, cities in every region have ramped up their efforts to reduce emissions and adapt to climate change.

Still, the effects of climate change that are being experienced already today—more damaging storms, deadly heat waves and floods—are "likely unprecedented over thousands of years." They are touching everything, from [economic security](#) to [human health](#), with underserved communities often harmed the most. And while no part of the country has been unscathed, few are as vulnerable to the worsening effects as the Southeast.

Those are among the main findings from the Fifth National Climate Assessment (NCA5), a sweeping federal [report](#) that provides a comprehensive look at how the country is being affected by climate change and what it is doing to respond.

Katherine Hayhoe, a climate scientist and one of the authors of the assessment, said "too many people still think of climate change as an issue that's distant from us in space or time or relevance."

"[The report] shows us how—if we live in the U.S.—the risks matter, and so to do our choices," Hayhoe added.

More than 500 authors and 260 contributors worked on this edition, including several from Georgia. The last report was released in 2018 during the Trump administration, but much has changed since then.

In 2021, under President Joe Biden's administration, the U.S. re-entered the Paris Climate Agreement, the international pact that seeks to limit global warming. With the votes of Democrats in Congress, Biden also passed his signature climate and health care law—the Inflation Reduction Act—which offers billions in tax credits and incentives to

help the U.S. transition to [clean energy](#), plus funding to help communities adapt.

Here's what the report says about how Georgia is faring as the planet heats up.

## **Dangerous heat on the rise**

Atlanta now sees around eight more extreme heat days that it did 1961, according to the U.S. Global Change Research Program, which oversaw the assessment. The city's "heat wave season" has also lengthened by more than 80 days.

And while scientists have long known that emissions of greenhouse gases are increasing the intensity and frequency of heat waves, the report finds the Southeast is among the most vulnerable regions to these events.

Underlying health issues like diabetes and heart disease are known to increase vulnerability to heat illness, and the assessment notes Southerners consistently rank among the most unhealthy in the country, with shorter-than-average life expectancies. The Southeast is also home to more Black residents than any other region of the country who "shoulder a disproportionate level of health risk associated with climate change."

While the region has not seen a jump in days over 95 degrees like other parts of the country, it has seen an increase in nighttime temperatures. On average, the Southeast now sees almost eight more days with overnight temperatures above 70 degrees than it did between 1901 and 1960, the report found.

High overnight temperatures rob the body of the cooling-off period it needs to stay safe during the day, with those living in poorly insulated

homes or unhoused facing the greatest risk. Adding to the problem in heavily paved cities like Atlanta are [urban heat islands](#), which can be as much as 12 degrees warmer than surrounding areas in a heat wave, the authors write.

Evan Mallen, a senior analyst at Georgia Tech's Urban Climate Lab and a technical contributor to the assessment, said the report makes clear that heat does not affect everyone equally.

"I think that when it comes to both the city and the state, we should be thinking about how we address these challenges in a way that is equitable," he said.

## **More flooding on the coast—and inland**

As Earth's glaciers and ice sheets melt, the report finds [sea level rise](#) is accelerating on Georgia's 100-mile-long coast and elsewhere in the Southeast.

Though exact amounts vary by location, tide gauges along the Southeast coast show sea levels rose by roughly six inches between 1970 and 2020, the report finds, with a significant uptick in just the last three decades. Parts of the Southeast could face sea levels that are 16 to 23 inches higher than they were in 2000 by 2050, less than 30 years from now.

As a result, the report says high-tide flooding events could become five to 10 times more common than they are today, threatening to coastal communities.

Areas farther inland face a growing flood risk, too.

Heavy deluges are occurring more frequently and becoming more intense, the assessment found. In the Southeast, the heaviest 1% of

precipitation events now dump 37% more rain than they did in the middle of the 20th century. Only the Northeast and Midwest have seen larger increases.

Those events can quickly overwhelm urban stormwater systems, just as one did in Atlanta in September, causing damaging flooding in parts of downtown.

## **Warmer winters, failing crops**

Farming is the lifeblood of many rural communities and an economic driver in Georgia, worth an estimated \$74 billion of total economic impact each year.

But farmers in Georgia are already having trouble bringing their crops to harvest. An exceptionally warm winter followed by a March freeze wiped out nearly all of the state's peach crop this year, and blueberry farmers have endured similar losses. Then, just over two months ago, Hurricane Idalia downed tens of thousands of pecan trees in South Georgia.

Those problems—and others—are likely to grow as the planet warms, the assessment found.

The report says higher temperatures, especially overnight, are already reducing farmers' yields, with impacts set to worsen as the heat increases. Long-term droughts are expected to grow more intense, and warmer conditions will allow pests to invade new areas.

Pam Knox, an agricultural climatologist at UGA and one of the authors of the Southeast chapter of the report, said there is reason for hope that farmers can adjust to the changes. Modern techniques like precision farming—data-driven technologies that help farmers to use resources,

like water and fertilizer, as efficiently as possible—are catching on and growing cheaper.

"The more we know, the more we can figure out ways to adapt and change our management style to deal with a challenge," Knox said.

## **'Hope and possibilities' exist**

The report does not mince words: There is not a pocket of the U.S. that has been left untouched by climate change, and the effects are likely to get worse. But how much worse depends on the actions we take today, the authors write.

There are promising signs that the country and the rest of the world are making progress in the fight to reduce emissions.

The price of solar panels has dropped 90% since 2010, while other clean energy technologies—from batteries to wind turbines—have gotten cheaper, too. Local efforts to reduce greenhouse gas emissions and adapt to [climate change](#) are taking place in every part of the country and have increased substantially since the last national assessment in 2018.

Plus, the technologies needed to decarbonize the economy—from [electric vehicles](#) and [solar power](#) to energy-efficient appliances and techniques to reduce food waste—already exist. With EV, battery and solar plants coming online in Georgia, the state is set to play a major role in providing those technologies to the U.S. and global markets.

"The takeaway from this assessment—the takeaway from all of our collective work on [climate](#)—should not be doom and despair," said Ali Zaidi, the White House's National Climate Advisor. "The takeaway should be a sense of hope and possibilities."

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