

CLIMATE POWER 2020

FLORIDA

What Do Trump's Attacks On Science Mean For Florida?

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TL/DR:

Floridians Believe In Climate Change - And They Want Their Leaders To Act:

- [68% of Floridians](#) believe in climate change, and [59% of the state's residents](#) are worried about climate change.
- [61% of Floridians](#) believe the President should do more to address climate change, [62%](#) believe Congress should do more, and [60%](#) believe their Governor should do more, and [59%](#) believe their local officials should do more.
- [Click here to jump to more research below](#)

Trump's Climate Denial Is Harmful To Floridians' Health:

- In 2018, heat stress illness was [responsible](#) for 5,753 emergency room visits in Florida, and currently, [more than 620,000](#) Floridians are especially vulnerable to extreme heat.
- In 2019, Florida's Hillsborough County [received](#) an "F" grade for the number of days of unhealthy ozone levels.
- Toxic algae linked to [respiratory conditions](#) and [serious illness](#) plagues Florida's waterways. Red and blue-green tide algae are [fueled by pollution](#) and [turbocharged](#) by climate change.
- Trump's close relationship with the coal industry has resulted in looser rules for dumping toxic coal ash.
 - Coal ash contains chemicals [linked](#) to cancer, neurological damage, and other health impacts and is stored in sites at risk of spilling into nearby rivers and lakes under flood conditions.

- Heavy metal contamination has been [reported](#) in groundwater near nine coal ash storage sites in the state.
- [Click here to jump to more research below](#)

Trump's Climate Denial Puts The Safety Of Floridians At Risk:

- Florida is at risk from climate-related hurricanes:
 - In the past decade, Florida [experienced](#) 5 hurricanes, totaling \$93.7 billion in damages and 258 deaths.
- Florida is at risk from climate-related wildfire:
 - [Studies show](#) climate change is increasing the severity, frequency, and extent of wildfires.
 - In May 2020, Florida [experienced](#) its first wildfires of the season, which burned through 5,000 acres of land across Southwest Florida.
- Florida is at risk from climate-related coastal and in-land flooding:
 - Scientists have [linked](#) an increase in heavy downpours to climate change.
- Currently, 3.5 million people [are at risk](#) of coastal flooding in Florida and by 2050, an additional 1.1 million people are [projected to be at risk](#) of coastal flooding due to sea level rise.
 - Currently, more than 1.5 million people are [at risk](#) of inland flooding in Florida.
 - In the last decade, in addition to flooding caused by hurricanes and tropical storms, Florida has [experienced](#) one flooding event costing a total of \$1.9 billion in damages and resulting in 33 deaths.
- Florida's [military bases](#) are at risk from extreme weather events:
 - U.S. Southern Command HQ is currently vulnerable to flooding and wildfires.
 - Cape Canaveral Air Force Station is currently vulnerable to flooding and wildfires
 - Eglin Air Force Base is currently vulnerable to flooding, drought, and wildfires
 - MacDill Air Force Base is currently vulnerable to flooding and wildfires
 - Patrick Air Force Base is currently vulnerable to flooding, drought, and wildfires
 - NAS Key West is currently vulnerable to flooding and drought and could be vulnerable to wildfires in the future.
- [Click here to jump to more research below](#)

Trump's Climate Denial Hurts Florida's Economy:

- Climate change will [cost](#) Florida \$100.9 billion a year by the year 2100. Florida [stands to lose](#) more homes and real estate value to sea level rise damage than any other state in the country.
- By 2100, more than 1,000,000 homes in Florida at an estimated worth of \$351 billion [will face flooding](#). Those homes at risk [currently contribute](#) around \$5 billion in annual property tax revenue.
- Florida's agriculture industry [generated](#) \$155 billion in direct industry output in 2014, contributing \$127.3 billion to state GDP, and supporting 2.2 million jobs.
- Outdoor recreation in Florida [supports](#) 485,000 jobs and \$58.6 billion in consumer spending. In 2018, tourism [generated](#) \$91.3 billion in visitor spending and supported more than 1.5 million jobs.
 - [Toxic algae](#) and diminishing [coral reefs](#) are already having an impact on Florida's tourism industry.
- In the past decade, Florida has [experienced](#) 14 climate-related disasters responsible for over \$109 billion in damages.
- Since Trump assumed office, Florida has [experienced](#) 10 climate-related disasters responsible for a total of \$84.7 billion in damages.
- Trump's clean cars rollback will [cost](#) Floridians over \$1.8 billion per year.
- [Click here to jump to more research below](#)

Trump's Climate Denial Is Especially Harmful To People Of Color In Florida:

- Low-income neighborhoods in Miami are experiencing "climate gentrification" as people who have the wealth to prepare for climate change are displacing people of color from high-elevation areas.
- Miami, Fort Lauderdale, St. Lucie, Orlando, Lakeland, Deltona, Tampa, St. Petersburg, and Clearwater all [experienced](#) more days of unhealthy ozone levels in 2019 compared to 2018.
- Ozone has been [linked](#) to asthma, and Black children are [four times](#) more likely to be admitted to the hospital and [ten times](#) more likely to die from asthma.
 - Communities of color in Florida [continue to fight against](#) pollution from the [sugar industry](#) in the Everglades and against [urban air pollution](#) fueled by highway infrastructure and [industrial plants](#).
- [Click here to jump to more research below](#)

Florida Has An Opportunity To Build A Strong Green Economy:

- Florida was ranked 3rd in the nation for clean energy employment in 2019, with the sector [employing](#) 166,032 workers.

- In 2019, Florida was home to over 12,000 jobs in the [solar industry](#) and 4,854 direct jobs in the [wind industry](#).
- [Click here to jump to more research below](#)

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HERE'S WHAT'S HAPPENING:

A [majority](#) of Floridians both believe in climate change and want their elected officials at all levels to do more to address the issue. President Trump's climate denial is harmful to Florida's health, safety, and economy – and is particularly harmful to communities of color.

Currently, [more than 620,000](#) Floridians are especially vulnerable to extreme heat and in 2019, heat-related illnesses [resulted](#) in 5,753 emergency room visits across the state. In 2019, Florida's Hillsborough County [received](#) an "F" grade for the number of days of unhealthy ozone levels. In addition to extreme heat and air pollution concerns, toxic algae linked to [respiratory conditions](#) and [serious illness](#) plagues Florida's waterways. Red and blue-green tide algae are [fueled by pollution](#) and [turbocharged](#) by climate change.

Trump's close relationship with the coal industry has resulted in looser rules for dumping toxic coal ash. Coal ash contains chemicals [linked](#) to cancer, neurological damage, and other health impacts and is stored in sites at risk of spilling into nearby rivers and lakes under flood conditions. Heavy metal contamination has been [reported](#) in groundwater near nine coal ash storage sites in the state.

Alongside health factors, Trump's Climate Denial places the safety of Floridians at risk. Over the past decade, Florida has [experienced](#) 5 hurricanes, totaling \$93.7 billion in damages and 258 deaths. Florida is also at risk from [climate-related](#) wildfire, which [so far](#) into 2020 have burned at least 5,000 acres in Southwest Florida.

Currently, 3.5 million people are [at risk](#) of coastal flooding in Florida and by 2050, an additional 1.1 million people are [projected to be at risk](#) of coastal flooding due to sea level rise. In addition, more than 1.5 million people are [at risk](#) of inland flooding in the state. In the last decade, alongside flooding caused by hurricanes and tropical storms, Florida has [experienced](#) one flooding event costing a total of \$1.9 billion in damages and resulting in 33 deaths.

Five of Florida's military bases are also [at risk](#) from extreme weather events: U.S. Southern Command HQ is currently vulnerable to flooding and wildfires, Cape Canaveral Air Force Station is currently vulnerable to flooding and wildfires, Eglin Air Force Base is currently vulnerable to flooding, drought, and wildfires, MacDill Air Force Base is currently vulnerable to flooding and wildfires, Patrick Air Force Base is currently vulnerable to flooding, drought, and wildfires, and NAS Key West is currently vulnerable to flooding and drought and could be vulnerable to wildfires in the future.

Trump's climate change denial harms Florida's economy. Climate change is estimated to [cost](#) Florida \$100.9 billion a year by the year 2100. By 2100, more than 1 million homes in Florida at an estimated worth of \$13 billion [will face flooding](#). Climate change will also harm the state's [agriculture](#), [outdoor recreation](#) and [tourism](#) industries, which have already been harmed by toxic algae and [diminishing](#) coral reefs. In the past decade,

Florida has [experienced](#) 14 climate-related disasters responsible for over \$109 billion in damages and since Trump assumed office, Florida has [experienced](#) 10 climate-related disasters responsible for a total of \$84.7 billion in damages. Trump's climate policies harm upon the state's economy can be evidenced with his administration's clean cars rollback , which will [cost](#) Floridians over \$1.8 billion per year.

Trump's Climate Denial is especially harmful to people of color in Florida, who [continue to fight against](#) pollution from the [sugar industry](#) in the Everglades and against [urban air pollution](#) fueled by highway infrastructure and [industrial plants](#).

Despite Trump's climate change denial, Florida has an opportunity to build a strong green economy.. The state was [ranked](#) 3rd for clean energy employment in 2019, with the sector providing 166,032 jobs. In 2019, Florida was home to over 12,000 jobs in the [solar industry](#) and 4,854 direct jobs in the [wind industry](#).

RESEARCH:

FLORIDIANS WANT CLIMATE ACTION

68 Percent Of Floridians Believe In Climate Change, Only 16% Disagree. According to public opinion survey estimates modeled by the Yale Program on Climate Change Communication and the George Mason Center for Climate Change Communication, 68% of Floridians agree that global warming is happening. [[Yale Program on Climate Change Communication, 9/17/2019](#)]

59 Percent Of Floridians Are Worried About Climate Change. According to public opinion survey estimates modeled by the Yale Program on Climate Change Communication and the George Mason Center for Climate Change Communication, 59% of Floridians are worried about global warming. [[Yale Program on Climate Change Communication, 9/17/2019](#)]

61 Percent Of Floridians Believe The President Should Do More To Address Climate Change. According to public opinion survey estimates modeled by the Yale Program on Climate Change Communication and the George Mason Center for Climate Change Communication, 61% of Floridians believe the President should do more to address global warming. [[Yale Program on Climate Change Communication, 9/17/2019](#)]

62 Percent Of Floridians Believe That Congress Should Do More To Address Global Warming. According to public opinion survey estimates modeled by the Yale Program on Climate Change Communication and the George Mason Center for Climate Change Communication, 62% of Floridians believe that Congress should do more to address global warming. [[Yale Program on Climate Change Communication, 9/17/2019](#)]

60 Percent Of Floridians Believe That Their Governor Should Do More To Address Global Warming. According to public opinion survey estimates modeled by the Yale Program on Climate Change Communication and the George Mason Center for Climate Change Communication, 60% of Floridians believe that their Governor should do more to address global warming. [[Yale Program on Climate Change Communication, 9/17/2019](#)]

59 Percent Of Floridians Believe That Their Local Officials Should Do More To Address Global Warming. According to public opinion survey estimates modeled by the Yale Program on Climate Change Communication and the George Mason Center for Climate Change Communication, 59% of Floridians believe that their local officials should do more to address global warming. [[Yale Program on Climate Change Communication, 9/17/2019](#)]

TRUMP'S CLIMATE DENIAL IS HARMFUL TO FLORIDIANS' HEALTH

EXTREME HEAT DAYS

Florida Currently Experiences An Average Of 25 Extreme Heat Days Per Year. According to States At Risk, Florida currently experiences an average of 25 extreme heat days per year. [[StatesAtRisk.Org, Accessed 4/29/2020](#)]

HEAT RELATED ILLNESSES

In 2018, Heat Stress Illness Was Responsible For 5,753 Florida Emergency Room Visits. According to data collected by the Centers for Disease Control's National Environmental Public Health Tracking Network, heat stress illness was responsible for 5,753 hospital emergency room visits in Florida in 2018. [[CDC National Environmental Public Health Tracking Network](#)]

By 2050, The Number Of Extreme Heat Days Florida Experiences Annually Is Projected To Jump To 130 – More Than Any Other State. According to States At Risk, Florida is expected to see 130 days of extreme heat per year by 2050, meaning Florida is predicted to experience more days of extreme heat than any other state. [[StatesAtRisk.Org, Accessed 4/29/2020](#)]

Vulnerable Populations

Currently, More Than 620,000 Floridians Are Especially Vulnerable To Extreme Heat. According to States At Risk, there are more than 620,000 people who are particularly vulnerable to extreme heat – those under 6 years old, above 65 years old, or living in extreme poverty – in Florida. [[StatesAtRisk.Org, Accessed 4/29/2020](#)]

Florida Is Home To Ten Of The Hottest Cities In The U.S., With Miami Topping The List As The Hottest. According to States At Risk, "Florida is home to 10 of the hottest cities in the U.S. Miami tops the list as the hottest." [[StatesAtRisk.Org, Accessed 5/1/2020](#)]

ISSUES WITH ACCESS TO CLEAN AIR

Ozone

Hillsborough County Received An "F" Grade For Ozone Pollution. According to the American Lung Association's annual State of the Air report in 2019, Hillsborough County,

Florida received a grade of “F” for having high ozone days. [[American Lung Association State of the Air Report Card: Florida, 2020](#)]

Miami-Dade County Received A “D” Grade For Ozone Pollution. According to the American Lung Association’s annual State of the Air report in 2019, Miami-Dade County, Florida received a grade of “D” for having high ozone days. [[American Lung Association State of the Air Report Card: Florida, 2020](#)]

Miami, Fort Lauderdale, St. Lucie, Orlando, Lakeland, Deltona, Tampa, St. Petersburg, And Clearwater All Experienced More Days Of Unhealthy Ozone Levels. In April of 2020, the American Lung Association reported: “The American Lung Association’s 2020 ‘State of the Air’ report found several cities earned mixed rankings for the nation’s most widespread air pollutants—ozone and particle pollution—both of which can be deadly. Gainesville, Lake City, Palm Bay, Melbourne, and Titusville were named on the cleanest cities list for short-term and year-round particle pollution after experiencing zero unhealthy air days. The Palm Bay-Melbourne-Titusville metro tied 14th in the nation for the cleanest city in the nation in year-round particle pollution ahead of the Gainesville-Lake City metro area which tied 23rd. However, Miami, Fort Lauderdale, St. Lucie, Orlando, Lakeland, Deltona, Tampa, St. Petersburg, and Clearwater all experienced more unhealthy air days of ozone in this year’s report.” [[American Lung Association press release, 4/21/2020](#)]

Asthma and Allergy Foundation: “Ozone Triggers Asthma.” According to the Asthma and Allergy Foundation of America, “Ozone, a gas, is one of the most common air pollutants. Ozone contributes to what we typically experience as “smog” or haze. It is most common in cities where there are more cars. It is also more common in the summer when there is more sunlight and low winds. Ozone triggers asthma because it is very irritating to the lungs and airways. It is well known that ozone concentration is directly related to asthma attacks. It has also caused the need for more doses of asthma drugs and emergency treatment for asthma. Ozone can reduce lung function. Ozone can make it more difficult for you to breathe deeply.” [[Asthma and Allergy Foundation of America, October 2015](#)]

ISSUES WITH ACCESS TO CLEAN WATER

Coal Ash

Nationwide: Unsafe Levels Of Toxic Metals Found In Groundwater Near More Than 90% Of Power Plants Subject To Monitoring Requirements. In March of 2019, Reuters reported “More than 90 percent of U.S. coal-fired power plants that are required to monitor groundwater near their coal ash dumps show unsafe levels of toxic metals, according to a study released on Monday by environmental groups. The groups, led by the Environmental Integrity Project and Earthjustice, said their findings show the potential harm to drinking water from coal ash and indicate that stronger regulations are needed. Data made public by power companies showed 241 of the 265 plants, or 91 percent, that were subject to the

monitoring requirement showed unsafe levels of one or more coal ash components in nearby groundwater compared to EPA standards, according to the analysis by the groups. The report also found that 52 percent of those plants had unsafe levels of cancer-causing arsenic in nearby groundwater, while 60 percent showed unsafe levels of lithium, which can cause neurological damage.” [\[Reuters, 3/4/2019\]](#)

TABLE: Heavy Metal Contamination Reported In Groundwater Near Coal Ash Storage Sites In Florida

State	Site Name	Pollutants Exceeding Safe Levels (and by how much)	No. of Regulated Landfills	No. of Regulated Impoundments
FL	Big Bend Power Station	Molybdenum (x2), Radium (x7)	0	1
FL	C.D. McIntosh Power Plant	Arsenic (x11), Lithium (x63), Radium (x12), Sulfate (x3)	1	0
FL	Crystal River Energy Complex	Arsenic (x144), Boron (x2), Cobalt (x1), Lithium (x9), Molybdenum (x6), Radium (x3), Sulfate (x2)	1	1
FL	Deerhaven Generating Station	Boron (x2), Lithium (x2), Molybdenum (x3), Radium (x1), Sulfate (x1), Thallium (x2)	1	1
FL	OUC Stanton Energy Center	Unsafe groundwater, but more contamination in upgradient wells	1	0
FL	Plant Crist	Boron (x26), Cadmium (x2), Cobalt (x15), Mercury (x3), Molybdenum (x42), Radium (x6), Sulfate (x1)	3	0
FL	Plant Smith	Arsenic (x3), Boron (x6), Lithium (x5), Radium (x8), Sulfate (x2)	0	1
FL	Seminole Generating Station	Boron (x1), Molybdenum (x2), Radium (x2), Sulfate (x2)	1	0
FL	St. Johns River Power Park	Boron (x10), Molybdenum (x1), Radium (x2), Sulfate (x3)	1	0

Source: [Environmental Integrity Project, 3/4/2019](#)

Toxic Algae

Human Health Impacts

RED TIDE

Florida Red Tide Produces Brevetoxins, Which When Released Into The Air By Waves Can Cause Severe Or Chronic Respiratory Conditions And Serious Illness. According to Mote

Marine Laboratory: “Many red tides produce toxic chemicals that can affect both marine organisms and humans. The Florida red tide organism, *K. brevis*, produces brevetoxins that can affect the central nervous system of fish and other vertebrates, causing these animals to die. Wave action can break open *K. brevis* cells and release these toxins into the air, leading to respiratory irritation. For people with severe or chronic respiratory conditions, such as emphysema or asthma, red tide can cause serious illness. The red tide toxins can also accumulate in molluscan filter-feeders such as oysters and clams, which can lead to neurotoxic shellfish poisoning in people who consume contaminated shellfish.” [\[Mote Marine Laboratory: Florida Red Tide FAQs\]](#)

Florida Red Tide Produces Brevetoxins, Which When Poison Humans Who Consume Contaminated Shellfish. According to Mote Marine Laboratory: “Many red tides produce toxic chemicals that can affect both marine organisms and humans. The Florida red tide organism, *K. brevis*, produces brevetoxins that can affect the central nervous system of fish and other vertebrates, causing these animals to die. Wave action can break open *K. brevis* cells and release these toxins into the air, leading to respiratory irritation. For people with severe or chronic respiratory conditions, such as emphysema or asthma, red tide can cause serious illness. The red tide toxins can also accumulate in molluscan filter-feeders such as oysters and clams, which can lead to neurotoxic shellfish poisoning in people who consume contaminated shellfish.” [\[Mote Marine Laboratory: Florida Red Tide FAQs\]](#)

Florida's Red Tide Bloom From 2017 To 2019 Caused An Increase In Emergency Room Visits From Neurological Symptoms. “During the last red tide bloom on the Suncoast, between 2017 and 2019, people reported not only having respiratory issues because of the red tide but also neurological issues. Dr. Michael Mullan, who is the Executive Director of The Roskamp Institute, said during that period of time there was an increase in people going to the emergency room complaining of neurological symptoms like extreme migraines.” [\[WWSB, 5/12/20\]](#)

BLUE-GREEN ALGAE

Just Breathing Near An Algae Bloom Can Make You Sick. On July 12, 2018, WINK News reported: “Vanessa Heath, physicians assistant with MedExpress explained potential symptoms of being near the algae, ‘They can have some shortness of breath some wheezing some difficulty breathing’ Medical experts say ingesting and breathing in the algae’s stench can make you sick. ‘We do recommend to just really try to avoid excess exposure to it just for the sake of not developing any respiratory issues,’ Heath said.” [\[WINK News, 7/12/2018\]](#)

Water Contaminated With Cyanobacteria (Blue-Green Algae) Can Cause Nausea, Vomiting, And Acute Liver Failure. In July of 2018, The Weather Channel reported: “Harmful algae blooms along Florida's coasts are sending people to emergency rooms and killing marine wildlife by the scores. At least 15 people were treated at area hospitals last week after making contact with water teeming with blue-green algae from the St. Lucie River near

Palm City on Florida's east coast, tcpalm.com reports. The algae prompted Sportsman magazine in Stuart, Florida, to close its office. 'It smells like death,' publisher Blair Wickstrom told the Sun-Sentinel. If ingested, water contaminated with toxic cyanobacteria can cause nausea, vomiting and, in severe cases, acute liver failure, the Florida Fish and Wildlife Conservation Commission (FWC) says. The Centers for Disease Control says coming in direct contact with the algae can result in a rash. Some research indicates a link between long-term inhalation of toxic algae fumes and neurological disorders like Parkinson's and Lou Gehrig's diseases." [[The Weather Channel, 7/31/2018](#)]

Martin County Department Of Health: "Children And Pets Are Particularly Vulnerable." In a July, 2018 press release, the Martin County Department of Health warned: "Exposure to blue-green algae may cause gastrointestinal effects if swallowed and irritation or rash if touched or inhaled. Swimming in water with blue green algae blooms may cause ear, eye and skin reactions, and hay fever and flu-like symptoms (including diarrhea)—these reactions are not common. Children and pets are particularly vulnerable, so keeping them away from the water during a bloom is especially important." [[Martin County Department of Health press release, 7/11/2018](#)]

Martin Health System Emergency Rooms Treated Dozens Of Patients For Algae Symptoms In A Two Week Period. On August 8, 2018, the TC Palm reported: "Eighty-six people treated by the [Martin Health] system's emergency rooms, clinics and primary care doctors between July 24 and Aug. 6 reported they had contact with the St. Lucie River within the previous seven days, Romano said. About 25 percent had symptoms that could be attributed to contact with toxic algae. 'It's just two weeks of data,' Romano said, 'but it's starting to show that the algae blooms are a health hazard, and people are getting sick because of that hazard.'" [[TC Palm, 8/8/2018](#)]

Fueled By Pollution

RED TIDE

Red Tide Is Fueled By Pollution From Inland Sources, Particularly Fertilizers. In August of 2018, NBC News reported: "Pollution from inland sources, particularly fertilizers, can wash into the ocean and provide fuel for *Karenia brevis*. But the tiny creatures have many food sources. "These pollutants could be a part of the problem. We just don't know how much," said Richard P. Stumpf, an oceanographer who studies harmful algae at the National Oceanic and Atmospheric Administration." [[NBC News, 8/3/2018](#)]

Excess Runoff Nutrients Play A Role In The Extend And Duration Of Red Tide Blooms Once They Make Their Way Inshore. In a December, 2018 blog post, University of Florida's Lisa Krimsky wrote: "When the bloom makes its way inshore, it feeds on excess nitrogen and phosphorus coming from various nutrient sources along the coast including stormwater, fertilizer runoff, septic tanks, and/or faulty wastewater systems. Scientists say these excess nutrients play a role in the extent and duration of large bloom events like the ones we are currently experiencing on both coasts." [[University of Florida Institute of Food and Agricultural Sciences extension blog, 12/4/2018](#)]

BLUE-GREEN ALGAE

Algae Blooms Can Be Traced Back To Runoff Flowing Into Lake Okeechobee With Phosphorus Levels More Than Four Times Higher Than Target. In July of 2016, the Sun Sentinel reported: “The algae fouling South Florida beaches traces its origin to cattle ranches, farms and neighborhoods as far north as Orlando. A vast area drains into Lake Okeechobee, where water laden with phosphorus has fertilized the growth of horrific algae blooms that have been discharged to the ocean. The target phosphorus level for the lake is 105 metric tons a year. Last year, the lake received 450.” [[Sun Sentinel, 7/8/2016](#)]

FAU Scientist Suggests Leaking Septic Tanks Might Be Responsible For 40%-60% Of Nitrogen Supporting Algae Blooms In The St Lucie Estuary. In August of 2018, PolitiFact reported: “Brian E. Lapointe, a scientist at Harbor Branch Oceanographic Institute at Florida Atlantic University, published a paper in 2017 in which he concluded septic systems contribute to nutrient pollution and harmful algal blooms in the St. Lucie Estuary. Lapointe’s research analyzed groundwater in two residential areas with aging septic systems, searching for aqueous nitrogen isotopes and sucralose, an artificial sweetener that cannot be broken down by the body. Those indicators suggested human waste from septic tanks was a pollution source. ‘The result of several studies we have done on the Indian River Lagoon and St. Lucie estuary are showing septic tanks are a major contributor of nitrogen supporting these blooms,’ Lapointe told PolitiFact. ‘Forty to 60 percent of the nitrogen looks like it could be easily coming from the septic tanks.’” [[PolitiFact, 8/20/2018](#)]

Turbocharged By Climate Change

RED TIDE

NBC’s Jeff Corwin: Climate Change + Pollution = “These Events Can Be Incredibly Catastrophic To The Environment.” In a segment for NBC Nightly News, biologist Jeff Corwin said: “The warming of our planet means the warming of the oceans, so when you mix that up with pollution, with sewage waste, with fertilizer runoff, these events can be incredibly catastrophic to the environment.” [[NBC Nightly News, 10/10/2018](#)]

Mote Marine Laboratory Scientist: Red Tide Bloom Is Likely Fueled By Climate Change. On August 23, 2018, NPR reported: “Although red tide is a natural phenomenon, this bloom is particularly extreme and damaging, and likely fueled by climate change, says Richard Pierce, senior scientist and program manager for ecotoxicology at the Mote Marine Laboratory in Sarasota, Fla. ‘What we’re looking at is an environment that has been totally altered because of the dead fish decaying, they use up all the oxygen,’ he tells Here & Now’s Robin Young. ‘It’s not suitable for life.’” [[NPR Here and Now, 8/23/2018](#)]

Florida Red Tide Algae Thrives On Warm Temperatures And Increased Carbon Dioxide. In August of 2018, the Washington Post reported: “K. brevis — the algae affecting Florida — has an interesting response to rising temperature. It thrives in water temperatures up to about 83 degrees, but if it gets much warmer than that, the algae doesn’t grow as quickly. However, researchers have found that K. brevis can tolerate higher temperatures and

grow faster given more carbon dioxide. Atmospheric carbon dioxide surpassed a concentration of 400 parts per million in 2015 and will continue to rise as society burns more fossil fuel." [\[Washington Post, 8/14/2018\]](#)

UF Professor: Climate Change Could Lead To Increased Growth Of Harmful Microorganisms In Nearshore Ocean Water, Including Red Tide. University of Florida Professor and Director of the Florida Sea Grant College Program Karl Havens wrote a paper for the Institute of Food and Agricultural Services Extension titled: "Climate Change and the Occurrence of Harmful Microorganisms in Florida's Ocean and Coastal Waters" According to the paper's summary: "Climate change is expected to result in increased temperatures of nearshore ocean water, and this could lead to increased growth of harmful microorganisms. These include algae that form noxious or toxic blooms, including red tides, and bacteria and other pathogens. This situation could have negative consequences in regard to human health and also Florida's ocean-related economy." [\[University of Florida/Institute of Food and Agricultural Sciences Extension publication #SGEF216\]](#)

Scientists Predict Climate Change Will Drive More Intense And Frequent Storms That Will Worsen Rain Runoff That Feeds Red Tide. In an August, 2018 story on the red tide affecting southern Florida, National Geographic pointed out: "What's more, recent exceptional red tide years seem to follow massive storms, Bartleson says. Both 2004 and 2005 were intense hurricane years in Florida, with multiple storms crisscrossing the state. Tons of rain and thus nutrient-rich runoff flooded into the Gulf. And then in 2005, a 17-month long red tide—the longest in Florida's records—gripped the state. Hurricane Irma blew through in 2017, which again led to massive runoff that perhaps is driving this latest bloom, says Bartleson. Scientists predict that as the climate changes, such storms will become even more intense and frequent, which could spell trouble for the future." [\[National Geographic, 8/8/2018\]](#)

BLUE-GREEN ALGAE

EPA: "Warmer Water Due To Climate Change Might Favor Harmful Algae In A Number Of Ways..." On a web page about nutrient pollution, the US Environmental Protection Agency says: "Harmful algae usually bloom during the warm summer season or when water temperatures are warmer than usual. Warmer water due to climate change might favor harmful algae in a number of ways:

- Toxic blue-green algae prefer warmer water.
- Warmer temperatures prevent water from mixing, allowing algae to grow thicker and faster.
- Warmer water is easier for small organisms to move through and allows algae to float to the surface faster.
- Algal blooms absorb sunlight, making water even warmer and promoting more blooms."

[\[US Environmental Protection Agency, "Climate Change and Harmful Algal Blooms"\]](#)

Higher Rainfalls Due To Climate Change Will Wash In High Amounts Of Nutrients And Worsen Blue-Green Algae Blooms.

In August of 2018, the Palm Beach Post reported: "South Florida's water woes come as researchers in their annual State of the Climate report released Wednesday warn that a warming globe could lead to an increase in ecological tragedies. The years 2014 through 2017 were the four warmest years on record for Earth since measurements began in the late 1800s, according to the report. 'I find it stunning actually to see the extent of how these record warm temperatures affect very important parts of our ecosystem,' said Greg Johnson, a NOAA oceanographer who co-presented the report. Johnson was speaking about an unprecedented three-year global coral bleaching event, but scientists, including Florida Atlantic University's J. William Louda, have said algae blooms will worsen with the warmer temperatures and higher rainfall that come with climate change. Record May rains in Florida are largely to blame for the blue-green algae that grew this summer in the Caloosahatchee River and St. Lucie Estuary as high amounts of nutrients were washed in from the watershed. Discharges from Lake Okeechobee exacerbate the problem, adding algae and diluting the brackish waterways." [\[Palm Beach Post, 8/1/2018\]](#)

TRUMP'S CLIMATE DENIAL PUTS THE SAFETY OF FLORIDIANS AT RISK

HURRICANES

Link To Climate Change

New York Times Headline: "Climate Change Is Making Hurricanes Stronger, Researchers Find." On May 18, 2020, the New York Times reported: "Hurricanes have become stronger worldwide during the past four decades, an analysis of observational data shows, supporting what theory and computer models have long suggested: climate change is making these storms more intense and destructive. The analysis, of satellite images dating to 1979, shows that warming has increased the likelihood of a hurricane developing into a major one of Category 3 or higher, with sustained winds greater than 110 miles an hour, by about 8 percent a decade." [[New York Times, 5/18/2020](#)]

NOAA: Human Activities May Have Already Made Changes To Atlantic Hurricanes.

According to the Geophysical Fluid Dynamics Laboratory, "It is premature to conclude that human activities—and particularly greenhouse gas emissions that cause global warming—have already had a detectable impact on Atlantic hurricane or global tropical cyclone activity. That said, human activities may have already caused changes that are not yet detectable due to the small magnitude of the changes or observational limitations, or are not yet confidently modeled (e.g., aerosol effects on regional climate)." [NOAA, Geophysical Fluid Dynamics Laboratory, accessed [8/29/17](#)]

Anthropogenic Warming Is Likely To Increase Intensity Of Hurricanes By As Much As 11%.

According to the Geophysical Fluid Dynamics Laboratory, "Anthropogenic warming by the end of the 21st century will likely cause tropical cyclones globally to be more intense on average (by 2 to 11% according to model projections for an IPCC A1B scenario). This change would imply an even larger percentage increase in the destructive potential per storm, assuming no reduction in storm size." [NOAA, Geophysical Fluid Dynamics Laboratory, accessed [8/29/17](#)]

Increased Hurricane Activity Is Linked To Higher Surface Temperatures Caused By Man Made Carbon Emissions.

According to the National Climate Assessment, "The recent increases in activity are linked, in part, to higher sea surface temperatures in the region that Atlantic hurricanes form in and move through. Numerous factors have been shown to influence these local sea surface temperatures, including natural variability, human-induced emissions of heat-trapping gases, and particulate pollution. Quantifying the relative contributions of natural and human-caused factors is an active focus of research." [National Climate Assessment, Extreme Weather, [2014](#)]

Warming Water Would Provide Fuel For More Intense Hurricanes. According to NASA, “The one way in which global warming could impact hurricanes is by making them more intense. More heat and water in the atmosphere and warmer sea surface temperatures could provide more fuel to increase the wind speeds of tropical storms.” [NASA, Earth Observatory, accessed [8/28/17](#)]

Recent Hurricanes Affecting Florida

2019: Hurricane Dorian

August – September 2019: Hurricane Dorian Caused \$1.6 Billion In Damages And Resulted In 10 Deaths. According to NOAA’s National Centers for Environmental Information, Hurricane Dorian, which hit Florida in August and September of 2019, caused \$1.6 billion in damages and resulted in 10 deaths. [[ndcd.noaa.gov, Accessed 4/30/2020](#)]

- **Dorian Reached A Maximum Sustained Wind Speed At Landfall At 185 Miles Per Hour, The Highest Since The 1935 Labor Day Hurricane.** According to NOAA’s National Center for Environmental Information, “Dorian’s intensification to a category 5 storm marks the fourth consecutive year, in which a maximum category 5 storm developed in the Atlantic basin - a new record. Dorian also tied the record for maximum sustained wind speed for a landfalling hurricane (185 mph) in the Atlantic, a record shared with the historic 1935 Labor Day Hurricane.” [[ndcd.noaa.gov, Accessed 4/30/2020](#)]

Washington Post: “The Science Connecting Climate Change To Hurricanes Like Dorian Is Strong.” On September 4, 2019, the Washington Post reported: “The science connecting climate change to hurricanes like Dorian is strong. Warmer oceans fuel more extreme storms; rising sea levels bolster storm surges and lead to worse floods. Just this summer, after analyzing more than 70 years of Atlantic hurricane data, NASA scientist Tim Hall reported that storms have become much more likely to ‘stall’ over land, prolonging the time when a community is subjected to devastating winds and drenching rain. But none of the numbers in his spreadsheets could prepare Hall for the image on his computer screen this week: Dorian swirling as a Category 5 storm, monstrous and nearly motionless, above the islands of Great Abaco and Grand Bahama.” [[Washington Post, 9/4/2019](#)]

2018: Hurricane Michael

October 2018: Hurricane Michael Caused \$25.5 Billion In Damages And Resulted In 49 Deaths. According to NOAA’s National Centers for Environmental Information, Hurricane Michael, which hit Florida in October 2018, caused \$25.5 billion in damages and 49 deaths. [[ndcd.noaa.gov, Accessed 4/30/2020](#)]

- **Hurricane Michael Was A Category 5 Hurricane That Reached Wind Speeds Of 160 Miles Per Hour.** According to NOAA’s National Centers for Environmental Information, “Powerful category 5 hurricane made landfall at Mexico Beach, Florida with devastating winds of 160 mph and storm surge in excess of 15 feet. [...] Michael’s intense winds also reached well inland causing billions in damage costs to agriculture and forestry, as high winds hit during harvest season for numerous crops across

several states. [...] Michael was initially rated as a category 4 with 155 winds but upgraded to a category 5 with 160 mph winds upon further analysis." [[ndcd.noaa.gov](https://www.ndcd.noaa.gov), Accessed 4/30/2020]

- **Hurricane Michael Was The Third Category 4 Or Higher Storm To Make Landfall In The U.S. Since 2017.** According to NOAA's National Centers for Environmental Information, "Michael is the third category 4 or higher storm to make landfall in the U.S. since 2017. Michael is the first category 5 to strike the U.S. mainland since Hurricane Andrew in 1992 and is only the fourth on record. The others are the Labor Day Hurricane (1935) and Hurricane Camille (1969)." [[ndcd.noaa.gov](https://www.ndcd.noaa.gov), Accessed 4/30/2020]

CBS News: "Sometimes Connecting Climate Change To A Specific Weather Event Is Difficult. With Hurricane Michael, It's Not." In October of 2018, CBS News reported: "Sometimes connecting climate change to a specific weather event is difficult. With Hurricane Michael, it's not. The science is easy: Earth's waters are getting warmer due to an increasing global temperature, and warmer waters fuel hurricanes. Water temperatures in the far northern Gulf of Mexico were 3 to 5 degrees Fahrenheit higher than normal for this time of year. Instead of water temperatures being near 80, they were in the mid-80s as Michael moved over the Gulf and approached the Florida coast. That's a huge difference. Even a small temperature bump in the ocean causes a tremendous addition of energetic heat and water vapor to a storm, meaning higher wind speeds and more storm surge. All other things being equal, a storm hovering above 85-degree water will become much stronger than a storm hovering above 80-degree water." [[CBS News](https://www.cbsnews.com/news/sometimes-connecting-climate-change-to-a-specific-weather-event-is-difficult-with-hurricane-michael-its-not/), 10/13/2018]

2017: Hurricane Irma

September 2017: Hurricane Irma Caused \$52.5 Billion In Damages And 97 Deaths.

According to NOAA's National Centers for Environmental Information, Hurricane Irma, which hit Florida in September 2017, caused \$52.5 billion in damages and 97 deaths. [[ndcd.noaa.gov](https://www.ndcd.noaa.gov), Accessed 4/30/2020]

- **Hurricane Irma Was A Category 4 Hurricane And A Category 5 Storm That Made Landfall At Cudjoe Key, Florida.** According to NOAA's National Centers for Environmental Information, "Category 4 hurricane made landfall at Cudjoe Key, Florida after devastating the U.S. Virgin Islands - St John and St Thomas - as a category 5 storm." [[ndcd.noaa.gov](https://www.ndcd.noaa.gov), Accessed 4/30/2020]
- **25 Percent Of Buildings In The Florida Keys Were Destroyed And 65 Percent Were Significantly Damaged.** According to NOAA's National Centers for Environmental Information, "The Florida Keys were heavily impacted, as 25% of buildings were destroyed while 65% were significantly damaged. Severe wind and storm surge damage also occurred along the coasts of Florida and South Carolina. Jacksonville, FL and Charleston, SC received near-historic levels of storm surge causing significant coastal flooding." [[ndcd.noaa.gov](https://www.ndcd.noaa.gov), Accessed 4/30/2020]
- **The Florida Coast Experienced Severe Wind And Storm Surge Damage, With Jacksonville Receiving Near-Historic Levels Of Storm Surge That Caused Significant**

Coastal Flooding. According to NOAA's National Centers for Environmental Information, "The Florida Keys were heavily impacted, as 25% of buildings were destroyed while 65% were significantly damaged. Severe wind and storm surge damage also occurred along the coasts of Florida and South Carolina. Jacksonville, FL and Charleston, SC received near-historic levels of storm surge causing significant coastal flooding."

[ndcd.noaa.gov, Accessed 4/30/2020]

- **Hurricane Irma Sustained Winds Of 185 Miles Per Hour For Longer Than 37 Hours, The Longest Recorded In The Satellite Era.** According to NOAA's National Centers for Environmental Information, "Category 4 hurricane made landfall at Cudjoe Key, Florida after devastating the U.S. Virgin Islands - St John and St Thomas - as a category 5 storm. [...] Irma maintained a maximum sustained wind of 185 mph for 37 hours, the longest in the satellite era. Irma also was a category 5 storm for longer than all other Atlantic hurricanes except Ivan in 2004." [ndcd.noaa.gov, Accessed 4/30/2020]

Scientists Say Climate Change Made Hurricane Irma Much Stronger. In September of 2017, BloombergNEF reported: "Climate change didn't cause Hurricane Irma, the most powerful storm to form in the open Atlantic Ocean, but did make it much stronger, scientists in Germany and the U.K. said. Irma made landfall in the Caribbean early Wednesday and barreled toward Puerto Rico on a path that may bring it ashore in Florida and destroy so much property that damages surpass Hurricane Katrina. 'Unfortunately, the physicality is very clear: Hurricanes get their destructive energy from the warmth of the ocean, and the region's water temperatures are super elevated,' said Anders Levermann, a climate scientist at the Potsdam Institute for Climate Impact Research, in an emailed statement on Wednesday." [[BloombergNEF](https://www.bloombergnef.com), 9/6/2017]

2016: Hurricane Matthew

October 2016: Hurricane Matthew Caused \$10.9 Billion In Damages And 49 Deaths.

According to NOAA's National Centers for Environmental Information, Hurricane Matthew, which hit Florida in October 2016, caused \$10.9 billion in damages and 49 deaths.

[ndcd.noaa.gov, Accessed 4/30/2020]

- **Hurricane Matthew Caused Widespread Damage From Wind, Storm Surge And Inland Flooding In Florida.** According to NOAA's National Centers for Environmental Information, "Category 1 hurricane made landfall in North Carolina, after it paralleled the Southeast coast along Florida, Georgia and the Carolinas causing widespread damage from wind, storm surge and inland flooding." [ndcd.noaa.gov, Accessed 4/30/2020]

2012: Hurricane Isaac

August 2012: Hurricane Isaac Caused \$3.2 Billion In Damages And Nine Deaths. According to NOAA's National Centers for Environmental Information, Hurricane Isaac, which hit Florida in August 2012, caused \$3.2 billion in damages and nine deaths. [ndcd.noaa.gov, Accessed 4/30/2020]

- **Florida Was One Of Four States To Experience Damage From A Large Storm Surge And Flooding Rains As A Result Of Category 1 Hurricane Isaac.** According to NOAA's

National Centers for Environmental Information, "Category 1 hurricane made landfall over Louisiana. Isaac's slow motion and large size led to a large storm surge and flooding rains. This created damage across several southeastern states (LA, MS, AL, FL) including 9 deaths (5 direct, 4 indirect)." [ndcd.noaa.gov, Accessed 4/30/2020]

FLOODS

Link To Climate Change

Scientists Have Linked Increases in Flooding to Climate Change. According to the National Climate Assessment, "Floods are caused or amplified by both weather- and human-related factors. Major weather factors include heavy or prolonged precipitation, snowmelt, thunderstorms, storm surges from hurricanes, and ice or debris jams [...] Increasingly, humanity is also adding to weather-related factors, as human-induced warming increases heavy downpours, causes more extensive storm surges due to sea level rise, and leads to more rapid spring snowmelt [...] The risks from future floods are significant, given expanded development in coastal areas and floodplains, unabated urbanization, land-use changes, and human-induced climate change" [National Climate Assessment, Extreme Weather, [2014](#)]

Heavy Rainstorms Have Become Heavier And More Frequent In The U.S. In The Past Three To Five Decades. According to the National Climate Assessment, "Heavy downpours are increasing nationally, especially over the last three to five decades. The heaviest rainfall events have become heavier and more frequent, and the amount of rain falling on the heaviest rain days has also increased. " [National Climate Assessment, Extreme Weather, [2014](#)]

- **The Midwest And Northeast Have Seen A 30% Increase In Very Heavy Precipitation Over The 1901-1960 Average - The Largest Increase In The Nation.** According to the National Climate Assessment, "Since 1991, the amount of rain falling in very heavy precipitation events has been significantly above average. This increase has been greatest in the Northeast, Midwest, and upper Great Plains – more than 30% above the 1901-1960 average. There has also been an increase in flooding events in the Midwest and Northeast, where the largest increases in heavy rain amounts have occurred." [National Climate Assessment, Extreme Weather, [2014](#)]

Scientists Have Linked An Increase in Heavy Downpours To Climate Change. According to the National Climate Assessment, "Global analyses show that the amount of water vapor in the atmosphere has in fact increased due to human-caused warming. This extra moisture is available to storm systems, resulting in heavier rainfalls." [National Climate Assessment, Extreme Weather, [2014](#)]

National Climate Assessment: "Heavy Downpours Are Increasing Nationally...The Mechanism Driving These Changes Is Well Understood." According to the 2014 National Climate Assessment: "Heavy downpours are increasing nationally, especially over the last three to five decades. The heaviest rainfall events have become heavier and more frequent, and the amount of rain falling on the heaviest rain days has also increased. Since

1991, the amount of rain falling in very heavy precipitation events has been significantly above average. This increase has been greatest in the Northeast, Midwest, and upper Great Plains – more than 30% above the 1901-1960 average. There has also been an increase in flooding events in the Midwest and Northeast, where the largest increases in heavy rain amounts have occurred. The mechanism driving these changes is well understood. Warmer air can contain more water vapor than cooler air. Global analyses show that the amount of water vapor in the atmosphere has in fact increased due to human-caused warming.,,, This extra moisture is available to storm systems, resulting in heavier rainfalls. Climate change also alters characteristics of the atmosphere that affect weather patterns and storms.” [[2014 National Climate Assessment: Extreme Weather](#)]

Sea Level Rise

Currently, 3.5 Million People Are At Risk Of Coastal Flooding In Florida. According to States At Risk, there are currently 3.5 million people at risk of coastal flooding in Florida.

[[StatesAtRisk.Org, Accessed 4/29/2020](#)]

By 2050, An Additional 1.1 Million People Are Projected To Be At Risk Of Coastal Flooding Due To Sea Level Rise. According to States At Risk, by 2050 a further 1.1 million people, for total of 4.6 million, are projected to be at risk of coastal flooding in Florida.

[[StatesAtRisk.Org, Accessed 4/29/2020](#)]

- **By 2050, 444,000 Square Miles Of Land Where More Than 375 Million People Currently Live In Florida Will Be Underwater From Rising Sea Levels.** According to States At Risk, “Specifically, 444,000 square miles of land that's home to more than 375 million people today will be swallowed up by the oceans.” [[StatesAtRisk.Org, Accessed 4/29/2020](#)]
- **20 Percent Of The Tampa Bay Population Is Projected To Be Impacted By Rising Sea Levels.** According to States At Risk, 421,000 people, 20 percent of Tampa Bay's population, is at risk from surging sea levels. [[StatesAtRisk.Org, Accessed 4/29/2020](#)]

Inland Flooding

Currently, More Than 1.5 Million People Are At Risk Of Inland Flooding In Florida.

According to States At Risk, there are currently more than 1.5 million people at risk of inland flooding in Florida. [[StatesAtRisk.Org, Accessed 4/29/2020](#)]

Recent Flooding Events

2014 Flooding Events

April 2014: Midwest/Southeast/Northeast Tornadoes And Flooding Caused \$1.9 Billion In Damages And 33 Deaths. According to NOAA's National Centers for Environmental Information, tornadoes and flooding across the Midwest, Southeast and Northeast, which hit Florida in April 2014, caused \$1.9 billion in damages and 33 deaths. [[ndcd.noaa.gov, Accessed 4/30/2020](#)]

WILDFIRE

Link To Climate Change

Climate Change Is Increasing The Severity, Frequency, And Extent Of Wildfires. According to a report from the EPA: “Higher temperatures and drought are likely to increase the severity, frequency, and extent of wildfires in Colorado, which could harm property, livelihoods, and human health. In 2013, the Black Forest Fire burned 14,000 acres and destroyed over 500 homes. Wildfire smoke can reduce air quality and increase medical visits for chest pains, respiratory problems, and heart problems. The size and number of western forest fires have increased substantially since 1985.” [[Environmental Protection Agency, “What Climate Change Means for Colorado” August 2016](#)]

The National Climate Assessment Has Found That The Number Of Wildfires Is Likely To Increase As The Climate Warms And Could Induce “Profound Changes To Certain Ecosystems.” In August of 2018, The Atlantic reported: “As if there wasn’t enough evidence of that. Last year, the National Climate Assessment—written by a panel of scientists in the military, federal civilian agencies, and private universities—reviewed the complete scientific literature on climate change and wildfires. They concluded that the number of large blazes had increased since the early 1980s. They also said the number of wildfires ‘is projected to further increase in those regions as the climate warms.’ They warned this could induce ‘profound changes to certain ecosystems.’” [The Atlantic, [8/10/18](#)]

Acres Burned By Wildfire Doubled In Recent Decades Due To Climate Change. According to the 2018 National Climate Assessment Report: “Wildfire is a natural part of many ecosystems in the Southwest, facilitating germination of new seedlings and killing pests. Although many ecosystems require fire, excessive wildfire can permanently alter ecosystem integrity. Climate change has led to an increase in the area burned by wildfire in the western United States. Analyses estimate that the area burned by wildfire from 1984 to 2015 was twice what would have burned had climate change not occurred. Furthermore, the area burned from 1916 to 2003 was more closely related to climate factors than to fire suppression, local fire management, or other non-climate factors.” [[National Climate Assessment, Chapter 25, 2018](#)]

Recent Wildfire Seasons

2020 Fire Season

May 2020: Florida Witnessed Its First Wildfires Of The Season, Which Burned Through 5,000 Acres Of Land. According to Washington Post, “At least 5,000 acres have been torched by a pair of wildfires raging in Southwest Florida, sending thick plumes of smoke high into the sky and forcing hundreds to evacuate in Collier County. The 22nd Ave. and the 36th Ave. Fires have merged near the Everglades Parkway east of Naples, and hit areas near the Golden Gate Estates, where several structures have burned, the hardest.” [[Washington Post, 5/14/2020](#)]

Dry Spring Weather Was Expected To Be A “Major Contributor” To The State's Active Wildfire Season. According to Washington Post, “Wildfires are no stranger to Florida, and they typically occur around this time of year. However, recent weather has been a major contributor to the active fire season. The Sunshine State had its driest March on record, with parts of the Everglades not seeing a drop of rain all month. Fort Myers, north of Naples, picked up a trace of rain during the month, a time of year when an average of 3.26 inches falls. Southwest Florida International Airport has seen only 3.53 inches of rain since the start of the year, barely a third of the 10.2 inches that typically falls by mid-May. That excessive dryness contributes to dried-out vegetation.” [[Washington Post, 5/14/2020](#)]

2019 Fire Season

In 2019, 122,500 Acres Of Land Were Burned Due To Wildfire In Florida. According to the National Interagency Fire Center's 2019 report, 122,500 acres of land were burned in 2,121 fires across Florida in 2019. [[National Interagency Fire Center, National Report of Wildland Fires and Acres Burned by State, 2019 Report](#)]

2018 Fire Season

In 2018, 138,820 Acres Of Land Were Burned Due To Wildfire In Florida. According to the National Interagency Fire Center's 2018 report, 138,820 acres of land were burned in 2,249 fires across Florida in 2018. [[National Interagency Fire Center, National Report of Wildland Fires and Acres Burned by State, 2018 Report](#)]

2017 Fire Season

In 2017, 298,831 Acres Of Land Were Burned Due To Wildfire In Florida. According to the National Interagency Fire Center's 2017 report, 298,831 acres of land were burned in 3,280 fires across Florida in 2017. [[National Interagency Fire Center, National Report of Wildland Fires and Acres Burned by State, 2017 Report](#)]

MILITARY BASES AFFECTED BY CLIMATE CHANGE

U.S. Southern Command HQ Is Currently Vulnerable To Flooding And Wildfires Linked To Climate Change. According to a list of bases in the appendix to a Department of Defense report titled “Report on Effects of a Changing Climate to the Department of Defense, the U.S. Southern Command Headquarters in Miami is currently vulnerable to recurrent flooding and wildfires linked to climate change and has the potential to be impacted by these issues in the future. [[Report on Effects of a Changing Climate to the Department of Defense, January 2019](#)]

Cape Canaveral Air Force Station Is Currently Vulnerable To Flooding And Wildfires Linked To Climate Change. According to a list of bases in the appendix to a Department of Defense report titled “Report on Effects of a Changing Climate to the Department of Defense, Cape

Canaveral Air Force Station is currently vulnerable to recurrent flooding and wildfires linked to climate change and has the potential to be impacted by these issues in the future. [[Report on Effects of a Changing Climate to the Department of Defense, January 2019](#)]

Eglin Air Force Base Is Currently Vulnerable To Flooding, Drought, And Wildfires Linked To Climate Change. According to a list of bases in the appendix to a Department of Defense report titled "Report on Effects of a Changing Climate to the Department of Defense, Eglin Air Force Base is currently vulnerable to recurrent flooding, drought, and wildfires linked to climate change and has the potential to be impacted by these issues in the future. [[Report on Effects of a Changing Climate to the Department of Defense, January 2019](#)]

MacDill Air Force Base Is Currently Vulnerable To Flooding And Wildfires Linked To Climate Change. According to a list of bases in the appendix to a Department of Defense report titled "Report on Effects of a Changing Climate to the Department of Defense, MacDill Air Force Base is currently vulnerable to recurrent flooding and wildfires linked to climate change and has the potential to be impacted by these issues in the future. [[Report on Effects of a Changing Climate to the Department of Defense, January 2019](#)]

Patrick Air Force Base Is Currently Vulnerable To Flooding, Drought, And Wildfires Linked To Climate Change. According to a list of bases in the appendix to a Department of Defense report titled "Report on Effects of a Changing Climate to the Department of Defense, Patrick Air Force Base is currently vulnerable to recurrent flooding, drought, and wildfires linked to climate change and has the potential to be impacted by these issues in the future. [[Report on Effects of a Changing Climate to the Department of Defense, January 2019](#)]

NAS Key West Is Currently Vulnerable To Flooding And Drought Linked To Climate Change And Could Be Vulnerable To Wildfires In The Future According to a list of bases in the appendix to a Department of Defense report titled "Report on Effects of a Changing Climate to the Department of Defense, Naval Air Station Key West is currently vulnerable to recurrent flooding and drought linked to climate change and has the potential to be impacted by wildfires in the future. [[Report on Effects of a Changing Climate to the Department of Defense, January 2019](#)]

TRUMP'S CLIMATE DENIAL HURTS FLORIDA'S ECONOMY

GDP IMPACT

Orlando Weekly: "A Study Published Last Year In Science Magazine Stated That Florida Will Most Likely Suffer The Biggest Financial Fallout" From Climate Change, "At \$100.9 Billion A Year." In October of 2018, Orlando Weekly reported: "All of this is painfully ironic, especially when you consider that the economy is arguably Trump's favorite excuse for not acknowledging climate change, and yet the home of his 'Winter White House,' Florida, is expected to experience the largest economic impact from climate change. A study published last year in Science Magazine stated that Florida will most likely suffer the biggest financial fallout, at \$100.9 billion a year. The only other state that even comes close to a loss of this magnitude is Texas, which is estimated to lose \$100.7 billion." [[Orlando Weekly, 10/16/2018](#)]

- **Climate Change Will Cost Florida \$100,921,326,667 A Year By The Year 2100.** According to data on the impacts of climate change as part of a study published in Science Magazine, Florida can expect to lose \$100,921,326,667 from annual GDP by the year 2100 if action isn't taken to immediately curtail carbon emissions. The study used a model that aimed to calculate the future impact on each state's gross domestic product (GDP) from events including hurricanes, storm surges, changes in agricultural yields, changing electricity demands, changes in mortality rates, changes to the labor supply, rising sea levels and rising crime rates. [[Hsiang, S., Kopp, R.E., et al, "Estimating economic damage from climate change in the United States" Science Magazine, 6/30/2017, MarketWatch, 4/30/2018](#)]
- **TCPalm: "A Study In Science Magazine...Said Florida Likely Will Suffer The Biggest Economic Impact Of Any State (\$100.9 Billion) As A Result Of Climate Change."** In June of 2019, TC palm reported: "Florida faces numerous threats from climate change, including increased coastal flooding, hurricane intensity and mosquito-borne diseases. The state's numerous large cities in low coastal areas will be particularly susceptible to sea level rise; and making matters worse, the rate of sea level rise in Florida will be 20 percent higher than the global average. A study in Science magazine, published last year, said Florida likely will suffer the biggest economic impact of any state (\$100.9 billion) as a result of climate change." [[TC Palm, 6/13/2019](#)]

Economic Impact Of Flooding

By 2100, More Than 1,000,000 Homes In Florida At An Estimated Worth Of \$351 Billion Will Face Flooding. According to a press release from the Union of Concerned Scientists: "Florida, of all coastal states in the lower 48, has the most homes at risk this century. By 2045, about 64,000 of today's residential Florida properties, currently home to more than 100,000 people, are at risk of chronic inundation. [...] This number jumps to more than 1 million properties at risk by 2100—about 10 percent of the state's current residential

properties and home to approximately 2.1 million people today. More than 40 percent of the nation's homes at risk in 2100 are in Florida. [...] The total value, in today's dollars, of Florida's at-risk properties is the largest of any coastal state. By 2045, about \$26 billion-worth of residential properties are at risk of chronic flooding. The million-plus homes that would face this flooding at the end of the century are currently worth more than \$351 billion. [[Press Release, Union of Concerned Scientists, 6/18/2018](#)]

The 1,000,000 Homes At Risk Of Flooding By 2100 Currently Contribute Around \$5 Billion In Annual Property Tax Revenue. According to a press release from the Union of Concerned Scientists: "Florida's municipalities could take a large hit to their property tax revenues in 2045 and the greatest hit of all coastal states in the lower 48 at the end of the century. The homes at risk in 2045 currently contribute nearly \$350 million in annual property tax revenue. The homes at risk by 2100 currently contribute roughly \$5 billion collectively in annual property tax revenue." [[Press Release, Union of Concerned Scientists, 6/18/2018](#)]

2019 Resilient Analytics And Center For Climate Integrity Report: Building Sea Walls To Mitigate Climate Change Is Projected To Cost Florida \$76 Billion By 2040 – More Than Any Other State. "Climate change is going to cost Florida more than any other state. It's not even close. That's according to a new report from Resilient Analytics and the Center for Climate Integrity, which projects that the state could be on the hook for building \$76 billion worth of sea walls by 2040 to mitigate the effects of climate change — and that's based on a conservative sea level rise scenario. To put that in perspective, Florida's entire 2018 budget was about \$88.7 billion. [...] The study only considered the cost of building sea walls in areas with public infrastructure, including roads. Even without factoring in any extreme storm surge events, it found that Florida would have to build 9,243 miles of sea walls at a cost of \$75,898,048,000. That's the longest stretch of sea walls of any state by more than 50 percent, and the highest total cost by a factor of about two." [Tampa Bay Times, [6/20/19](#)]

- **Tampa Bay Times Headline: "Florida Could Face \$76 Billion In Climate Change Costs By 2040, Report Says"** [Tampa Bay Times, [6/20/19](#)]

Union Of Concerned Scientists: Florida Stands To Lose More Homes And Real Estate Value To Sea Level Rise Damage Than Any Other State In The Country. "Florida stands to lose more homes — and real estate value — to sea level rise damage than any other state in the nation this century, according to a new study. By 2045, nearly 64,000 homes in Florida face flooding every other week. Half of those are in South Florida. If you buy a house now, before your new mortgage is paid you might have to regularly do the rolled-up-pants, shoes-in-hand commute that has become an enduring image of sea rise. These numbers, released in a report compiled by the Union of Concerned Scientists, used housing information from Zillow and a flood model from the National Oceanic and Atmospheric Administration that predicts 6 1/2 feet of sea rise by the end of the century." [Miami Herald, [6/18/18](#)]

Sunny Day Coastal Flooding Is Now Routine In Miami And Getting Worse Because Of Sea-Level Rise. In August of 2019, the Washington Post reported: “It doesn’t take a hurricane to cause flooding in Miami anymore. In fact, it doesn’t even take a gust of wind. ‘King tides’ have been taking a toll on Miami for a number of years, and the phenomenon is only getting worse because of sea-level rise from human-induced climate change. A king tide is a higher -than-normal tide caused by specific alignments of the sun and moon. Miami set daily high tide records for more than a week straight for the period bridging late July and early August, despite a total lack of storminess in the region. Sunny day coastal flooding is now routine, submerging some areas on a monthly basis when the sun and moon line up just right. There’s even a ‘king tide season’ in the late fall and early winter, when the flooding is particularly severe.” [[Washington Post, 8/8/2019](#)]

AGRICULTURAL IMPACTS

In 2014, Florida's Agricultural Industry Generated \$155 Billion In Direct Industry Output In 2014, Contributing \$127.3 Billion To State GDP, And Supporting 2.2 Million Jobs. According to a University of Florida fact sheet, Florida agricultural industry contributed “13.8 percent of all jobs in the state in 2014. \$155 billion in direct industry output; 2.2 million full- and part-time jobs; and \$127.3 billion in value-added contribution to the state’s contribution to the Gross State Product in 2014.” [[University of Florida Institute of Food and Agricultural Sciences, 2016](#)]

TOURISM & OUTDOOR RECREATION

Tourism Contributed \$91.3 Billion To Florida's Economy And Supported Over 1.5 Million Florida Jobs In 2018. According to data reported by Visit Florida, “Based on the latest economic impact study, Florida visitors contributed \$91.3 billion to Florida's economy and supported over 1.5 million Florida jobs in 2018. According to the Office of Economic and Demographic Research, for every \$1 the state invests in VISIT FLORIDA, \$2.15 in state tax revenue is generated.” [[Visit Florida website accessed 6/10/2020](#)]

Outdoor Recreation In Florida Supports 485,000 Jobs And \$58.6 Billion In Consumer Spending. According to data collected by the Outdoor Industry Association, outdoor recreation in Florida supports 485,000 direct jobs and generates \$17.9 billion in wages and salaries. Outdoor recreation generates \$58.6 billion in consumer spending for the state, which brings in \$3.5 billion in state and local tax revenue. [[Outdoor Industry Association accessed 6/9/2020](#)]

Florida's Economy “Is Dependent On Some Of The Industries Most Vulnerable To Climate Change — Tourism And Agriculture.” “The message of the most comprehensive climate change report the United States has ever released is clear: climate change is already impacting Americans, and if nothing is done it will devastate the economy and disrupt millions of lives. For South Florida, among the most vulnerable regions in the country, the report also underlines that spiraling effects are going to be a lot more costly and

challenging than worrying about wet feet when crossing flooded coastal roads during the annual King Tides. [...] Florida has more real estate at risk than any other state, and its economy is dependent on some of the industries most vulnerable to climate change — tourism and agriculture. That risk came up when authors of the report tackled the cost of inaction. The price tag of adapting to climate change without doing anything to stop it could be a tenth of the annual U.S. economy by the end of the century. That's double the hit of the Great Recession." [[Miami Herald, 11/27/2018](#)]

Recreational Fishing Was Responsible For 44,201 Jobs And Almost \$5 Billion In Sales In East Florida In 2016. According to an update to the Fisheries Economics of the United States report from the National Oceanic and Atmospheric Administration, recreational fishing in East Florida supported 44,201 jobs and generated \$4,956,013,000 in sales. [[NOAA Fisheries Economics of the United States, 2016 \(October 2019 Addendum\)](#)]

Recreational Fishing Was Responsible For 73,201 Jobs And \$8.2 Billion In Sales In West Florida In 2016. According to an update to the Fisheries Economics of the United States report from the National Oceanic and Atmospheric Administration, recreational fishing in West Florida supported 73,201 jobs and generated \$8,293,371,000 in sales. [[NOAA Fisheries Economics of the United States, 2016 \(October 2019 Addendum\)](#)]

Tourism Dollars Tied To Declining Coral Reefs

Gainesville Sun Headline: "Editorial: Florida Hurt By Inaction On Climate Change"

[Gainesville Sun, [12/2/18](#)]

Florida's Reefs Are Experiencing Ongoing Outbreaks Of Disease And Bleaching Due To Increased Ocean Temperatures. "The unrelenting ocean heat in 2014 and 2015 caused many of Florida's corals to turn white and lose key metabolic functions from heat stress. The heat episodes in 1997-1998 and in more recent years 'have been the worst events on record for bleaching events and have had devastating effects and losses of coral cover,' said Rob Ruzicka, who heads the coral research program at Florida's Fish and Wildlife Research Institute. Florida enjoyed a respite last year, but the reef system still suffered from a protracted outbreak of deadly diseases that often follow bleaching." [Washington Post, [6/25/17](#)]

Florida Fish And Wildlife Official Said His Team Had Seen A 50 Percent Decline In Coral Cover At Their Sites. In a June, 2017 story on a program called CREMP that monitors coral reefs, WGCU News interviewed Florida Fish and Wildlife Conservation Commission's Principal Investigator for the program, Rob Ruzicka. According to WGCU, "Ruzicka said the two decades of data collected through CREMP draw attention to a concerning trend in Florida's coral health. 'We've seen a roughly 50 percent decline in the coral cover at our sites,' said Ruzicka. 'And while this can't necessarily be extrapolated throughout the entire Florida Keys and through the entire Florida reef tract, what we've seen within our

monitoring sites is a large reflection on the amount of coral that we have lost.” [WGCU, [6/23/17](#)]

Washington Post: “Nearly Everything In The Florida Keys Is Tied In Some Way To The Reefs” In June of 2017, the Washington Post reported: “But what is happening here — as the warming of the sea devastates the coral reef — is a stark example of how rising temperatures can threaten existing economies. The 113-mile-long Overseas Highway between the mainland and Key West — linking islands that themselves emerged from an ancient coral archipelago — is lined with marinas, bait and tackle shops and an abundance of seafood restaurants. From the visitors who fill dive charters out of Key Largo to the local fishing industry’s catches of spiny lobsters, grouper, snapper and other species, nearly everything in the Florida Keys is tied in some way to the reefs. Diving, snorkeling, fishing, and eating seafood are among the key tourist activities that could be harmed if the reef continues to suffer damage.” [[Washington Post, 6/25/2017](#)]

NOAA: “Coral Reefs In Southeast Florida Have An Asset Value Of \$8.5 Billion, Generating \$4.4 Billion In Local Sales, \$2 Billion In Local Income, And 70,400 Full And Part-Time Jobs.” According to the NOAA’s website, “From tourism to marine recreation and sport fishing, coral reefs play an important role in the economies of countries all around the world. By one estimate, coral reefs provide economic goods and services worth about \$375 billion each year. NOAA suggests that coral reefs in southeast Florida have an asset value of \$8.5 billion, generating \$4.4 billion in local sales, \$2 billion in local income, and 70,400 full and part-time jobs.” [[NOAA Florida Keys National marine Sanctuary website, accessed 3/3/2020](#)]

“NOAA’s National Marine Fisheries Service Estimates The Annual Commercial Value Of U.S. Fisheries From Coral Reefs To Be Over \$100 Million. Reef-Based Recreational Fisheries Generate Over \$100 Million Annually In The United States.” According to NOAA, “The fish that grow and live on coral reefs are a significant food source for people worldwide. In the United States, about half of all federally managed fisheries depend on coral reefs. NOAA’s National Marine Fisheries Service estimates the annual commercial value of U.S. fisheries from coral reefs to be over \$100 million. Reef-based recreational fisheries generate over \$100 million annually in the United States.” [[NOAA Florida Keys National Marine Sanctuary website, accessed 6/11/2020](#)]

Tourism Losses & Cleanup Costs From Toxic Algae

TC Palm Following 2018 Red Tide Outbreak: “During October And November, Local Tourist-Tax Revenue Dropped Sharply, With Hotels, Motels And Restaurants Feeling The Pinch Of Closed Beaches And Dead Fish Along The Shoreline.” During October and November, local tourist-tax revenue dropped sharply, with hotels, motels and restaurants feeling the pinch of closed beaches and dead fish along the shoreline.” According to TC Palm, “The red tide that plagued the Treasure Coast during early fall is still causing havoc in the county, this time with tourism taxes. During October and November, local tourist-tax revenue dropped sharply, with hotels, motels and restaurants feeling the pinch of closed beaches and dead

fish along the shoreline. In October, collections of the tax, also known as the bed tax, dropped more than 10 percent from October 2017, while in November, the decline was nearly 6 percent compared to the same period in 2017, Budget Director Kristin Daniels told the County Commission Tuesday. Still, tourism taxes were ahead of county budget estimates by nearly 17 percent, or \$52,473, she said. [...] Beachside businesses lost \$300,000-\$350,000 in October and November, according to the Indian River County Chamber of Commerce. The chamber ran a two-month social and digital media campaign focused on bringing tourists back to the beaches. That campaign seems to have paid off. Although the numbers are preliminary for December, tourist-tax collections improved 7.3 percent over 2017 to \$18,226. That brought the fiscal year's first quarter total to \$368,245, still a decline of about 8 percent over the same time last year." [TC Palm, [2/13/19](#)]

2018: Local Hotels Reported Losses In The Tens Of Thousands Of Dollars And Having To Cut Staff. According to WTSP, "14: The number of hotels that have started sharing data on cancellations and monetary losses with Visit St. Pete Clearwater, the county's tourism division, according to spokesperson Mackenzie Monteiro. Losses being report range from thousands to tens of thousands of dollars. Some have reported having to cut staff levels too." [WTSP, [9/19/2018](#)]

During The 2018 Red Tide Outbreak, Florida Offered Businesses Impacted By Red Tide Up To \$50,000 In Loans. According to WTSP, "15: That's how many businesses have inquired about the Florida Emergency Bridge Loan, according to Stacey Swank with the Pinellas County Economic Development Office. Qualifying small business with between 2-100 employees can request a loan for up to \$50,000 which will remain interest-free for the first 180 days. 5: That's how many businesses have applied for the Florida Emergency Bridge Loan, as of Tuesday. But the true economic impact is not yet known, Swank said. Whether businesses are interested in taking out an emergency loan, all are being encouraged to report any financial losses or damages caused by red tide to the county." [WTSP, [9/19/2018](#)]

Bait Company Owner Brian Hayhurst On Fishing In Red Tide Areas: "The Catch Will Be Dead By The Time It Is In The Boat." In an August, 2018 story on the business impacts of red tide in Florida, the Naples Daily News reported: Brian Hayhurst, owner of Serenity Bait Company, 2365 Davis Blvd. in East Naples, said there's plenty of bait and fish deep down in the water, but as soon as you pull the traps or lines up through the bloom on the water's surface, the catch will be dead by the time it is in the boat." [Naples Daily News, [8/20/2018](#)]

During 2018 Red Tide Outbreak, One Vacation Properties Owner Saw Business Down 65%, Losing As Much As \$20,000 Per Day Due To Red Tide. In a September, 2018 story on businesses impacted by red tide, the Sarasota Herald Tribune reported: "Jackie Mauck, resort manager at Siesta Key Bungalows, estimates that business is down 65 percent from the norm this time of year. As people keep canceling reservations and new ones fail

to trickle in, her workplace cut back on her hours and laid off a housekeeper. Mauck added that her hotel's owner had dismissed the possibility of applying for the state's bridge loan program. Six months was too little and 18 percent too high to risk during a time when her business already is struggling, she said. Michael Holderness, who owns Siesta Key Beachside Villas and other rental properties in the area, echoed Mauck's concerns. He said his businesses are incurring losses of \$20,000 per day, forcing him to dip into his reserves for 2019 to stay afloat." [[Sarasota Herald Tribune, 9/24/2018](#)]

After Blue-Green Algae Cost One Couple's Business \$100,000, They Moved Across Florida Only To Be Devastated By Red Tide. In August of 2018, CNN reported: "Toxic algae slime cost Rochelle Neumann's business more than \$100,000 two years ago. Red tide may close it for good. Neumann and her husband run Cortez Surf & Paddle in Cortez, Florida, a watersports rental and guided tour company. Just two years ago, they moved from Stuart, Florida, after the toxic algae slime that coated the waterways of the St. Lucie River killed their business there. 'We were closed for almost six months,' said Neumann. 'There were signs up everywhere saying do not touch the water.' After two major algae events in 2013 and 2016 cost the Neumann's more than \$100,000 in business, they picked up and moved to the other side of the state. But now they are facing another major threat from a marathon red tide algae bloom. The blooms off Florida normally start in October and end in winter, but this one has lasted for nine months and been devastating for marine life." [[CNN, 8/15/2018](#)]

WPEC CBS: "Green Gunk" Infesting Florida Waters Is Turning Away Tourists. In July of 2018, WPEC CBS 12 News reported: "During the summer, the Treasure Coast is usually a popular tourist destination. They come to see Florida at its best, which means algae free. But with the green gunk infesting the waters, some people are looking for a different place to vacation. For tourists who already booked their trips here, they don't have much choice. But those with more flexibility may choose to spend their money somewhere else." [[WPEC CBS 12, 7/31/2018](#)]

Boca Grande Tourism Business Forced To Close Up And Dismiss Employees Due To 2018 Algae Crisis. In August of 2018, WZVN ABC 7 News reported: "White said that since the blue-green algae has become such a problem in Southwest Florida, tourists are staying away. He said he's used to a slow summer, but this year he's seen virtually no reservations. Those he has had have canceled out of fear of the algae. Elsewhere, in Boca Grande, one tourism centered business hasn't seen a customer since Memorial Day. Glass Bottom Kayaks has been forced to close up shop and dismiss employees until conditions improve. 'Nobody has been out here in months,' said Aaron Coher, from Glass Bottom Kayaks. 'Normally this place is so busy it looks like a beach, the water is crystal clear.'" [[WZVN ABC 7 News 8/11/2018](#)]

September 2018 – November 2018: Pinellas County Spent \$7 Million On Cleaning Up Dead Fish Caused By Red Tide. According to The Tampa Bay Times, “Pinellas suffered from the toxic algae bloom's effects for three months, starting in early September. Levy said the county spent more than \$7 million trying to clean up all the dead fish washing ashore, in some cases intercepting them before they could reach the beach.” [Tampa Bay Times, [11/27/18](#)]

Contractors Hired By Pinellas County Collected 1,863 Tons Of Dead Sea Life. According to The Tampa Bay Times, “Contractors hired by the county collected a total of 1,863 tons of dead sea life and hauled it off to the county's landfill and incinerator.” [Tampa Bay Times, [11/27/18](#)]

December 2018: St. Lucie County Spent \$18,885 Disposing Of 101,400 Lbs. Of Dead Marine Life. According to WPTV, “According to St. Lucie County: Around 101,400 lbs. of dead fish were removed from just under a 5-mile stretch in the county. Total cost of the cleanup was \$81,885. Cleanup lasted from Oct. 24-29. ‘The smell wasn't very good and it wasn't great for tourism so to be able to get in there and get the beaches cleaned within five days was a blessing,’ said Erick Gill, Communications Director for St. Lucie County. The county contracted with AshBritt Environmental, and used money from solid waste authority funds. The county is hoping to get that money back from the state soon, thanks to the state's emergency order issued for red tide. ‘We had [AshBritt] on retainer in the event that there's a hurricane and major debris that needed to be cleaned up,’ Gill said. If not, Gill said, crews from Parks and Recreation would have had to be moved around and the county said it would not have had the resources to clean up the dead fish.” [WPTV, [12/04/18](#)]

THE COST OF TRUMP CLIMATE POLICIES

Trump's Clean Cars Rollback Will Cost Floridians Over \$1.8 Billion Per Year. In March of 2019, the Center for American Progress analyzed the costs of some of Donald Trump's regulatory changes. For Trump's rollback of clean cars standards, they combined data from M.J. Bradley and Associates' analysis of the net cost for American families of freezing fuel economy targets at model-year 2020 along with data from the Energy Information Agency's oil price forecasts as well as the American Community Survey. The analysis found that Trump's rollback of clean cars standards will cost Floridians \$1,826,100,000 per year. [[Center for American Progress, 3/27/2019](#)]

SPENDING ON DISASTERS

In The Past Decade, Florida Has Experienced 14 Climate-Related Disasters Responsible For Over 109 Billion Dollars' Worth Of Damages And Causing 289 Deaths. According to NOAA's National Centers for Environmental Information, Florida experienced 14 climate-related disasters that were responsible for over a billion dollars' worth of damages each, with a combined total of \$109.2 billion. 289 deaths were attributed to these disaster

events. These 14 disasters that occurred between 2009 and 2019 include seven severe storms, five tropical cyclones, one freeze and one wildfire. [ndcd.noaa.gov, Accessed 4/30/2020]

Since Trump Assumed The Office Of The Presidency, Florida Has Experienced Seven Climate-Related Disasters Responsible For Almost 85 Billion Dollars' Worth Of Damages And Causing 183 Deaths. According to NOAA's National Centers for Environmental Information, since President Trump assumed office in 2017, Florida has experienced seven climate-related disasters responsible for over a billion dollars' worth of damages each, with a combined total of \$84.7 billion. 183 deaths were attributed to these events. These seven disasters include three severe storms, three tropical cyclones, and one freeze event. [ndcd.noaa.gov, Accessed 4/30/2020]

TRUMP'S CLIMATE DENIAL IS ESPECIALLY HARMFUL TO PEOPLE OF COLOR IN FLORIDA

CLIMATE GENTRIFICATION

Neighborhoods In Miami Are Experiencing "Climate Gentrification" In Response To Sea Level Rise. In November of 2019, WLRN radio reported: "A building boom is happening all over Miami, including in low-lying areas, but some experts say sea level rise is speeding up gentrification in high-elevation communities that historically have seen very little investment from the outside. The 'climate gentrification' theory was put into sharp focus by Harvard researcher Jesse Keenan, who looked at how single family homes in Miami-Dade County's higher elevation neighborhoods were gaining value while lower elevation properties seemed to be underperforming since 2000. Keenan hypothesized that, as more consumers choose to avoid the risks and nuisance of flooding, gentrification in high-elevation communities will accelerate." [[WLRN, 11/4/2019](#)]

OZONE POLLUTION

Miami, Fort Lauderdale, St. Lucie, Orlando, Lakeland, Deltona, Tampa, St. Petersburg, And Clearwater All Experienced More Days Of Unhealthy Ozone Levels. In April of 2020, the American Lung Association reported: "The American Lung Association's 2020 'State of the Air' report found several cities earned mixed rankings for the nation's most widespread air pollutants—ozone and particle pollution—both of which can be deadly. Gainesville, Lake City, Palm Bay, Melbourne, and Titusville were named on the cleanest cities list for short-term and year-round particle pollution after experiencing zero unhealthy air days. The Palm Bay-Melbourne-Titusville metro tied 14th in the nation for the cleanest city in the nation in year-round particle pollution ahead of the Gainesville-Lake City metro area which tied 23rd. However, Miami, Fort Lauderdale, St. Lucie, Orlando, Lakeland, Deltona, Tampa, St. Petersburg, and Clearwater all experienced more unhealthy air days of ozone in this year's report." [[American Lung Association press release, 4/21/2020](#)]

Asthma and Allergy Foundation: "Ozone Triggers Asthma." According to the Asthma and Allergy Foundation of America, "Ozone, a gas, is one of the most common air pollutants. Ozone contributes to what we typically experience as "smog" or haze. It is most common in cities where there are more cars. It is also more common in the summer when there is more sunlight and low winds. Ozone triggers asthma because it is very irritating to the lungs and airways. It is well known that ozone concentration is directly related to asthma attacks. It has also caused the need for more doses of asthma drugs and emergency

treatment for asthma. Ozone can reduce lung function. Ozone can make it more difficult for you to breathe deeply." [[Asthma and Allergy Foundation of America, October 2015](#)]

African American Children Were Four Times More Likely To Be Admitted To The Hospital And Ten Times More Likely To Die From Asthma. According to the Department of Health and Human Services, "In 2015, African American children had a death rate ten times that of non-Hispanic white children. Black children are 4 times more likely to be admitted to the hospital for asthma, as compared to non-Hispanic white children. [Department of Health and Human Services, Accessed [9/7/18](#)]

PAHOKEE SUGAR INDUSTRY POLLUTION

Associated Press Headline: Sugar Field Burning Plagues Poor Florida Towns With Soot. [[Associated Press, 12/1/2019](#)]

Pahokee, FL, A Town Whose Population Is 59% African American Population And 29% Hispanic, Is Dealing With The Pollution Of Lake Okeechobee By The Sugar Industry. According to The Guardian: "Pahokee, Florida, a town whose population is 56% African-American and 29% Hispanic, has had to confront the sugar industry, which polluted nearby Lake Okeechobee, endangering drinking water, fish safety, and property values." [[The Guardian, 3/8/2019](#)]

Poor And Predominantly African-American Rural Towns Along The Shore Of Lake Okeechobee Witness "Black Snow" Pollution From Burning Sugar Fields. According to Associated Press: "For residents of the Glades, a string of poor, predominantly African American rural towns dotting the southern shore of Florida's Lake Okeechobee, the beginning of the annual sugar cane harvest in October means the arrival of 'black snow.' [...] The 'snow' is an airborne byproduct of the disputed practice of burning sugar fields before harvests." [[Associated Press, 12/1/2019](#)]

Burn Restrictions Are In Place To Protect Affluent Communities In Palm Beach County, But Not To Protect Predominately African-American Communities In The Everglades Agricultural Area. According to the Sierra Club: "Current voluntary industry burn restrictions prevent burning only when the winds blow from the west toward the more affluent communities in eastern Palm Beach County. There are no burn restrictions in place when the winds blow from the east towards the poorer, predominantly African-American communities within the EAA. This leaves the residents of the EAA to unjustly bear the worst of the negative health and quality life impacts caused from sugarcane burning while receiving the least amount of protection." [[Sierra Club, Accessed 6/12/2020](#)]

Soot And Ash From Sugar Cane Burning Has Been Linked To Increased Respiratory Distress. According to Associated Press: "The fires can produce sooty plumes of smoke that hover over the surrounding communities and dust the area with burnt flakes of plant

matter. Research in Florida on the potential health consequences of sugar cane burning has produced conflicting results: A 2015 study funded by the U.S. Education Department concludes that residents of areas such as the Glades that are frequently exposed to large burns experience a greater amount of 'respiratory distress.' The Environmental Protection Agency has said residents are exposed to hazardous air pollutants on par with some urban areas." [[Associated Press, 12/1/2019](#)]

PARRAMORE, ORLANDO AIR POLLUTION

Parramore Is A Low-Income And Predominately African-American Neighborhood In Orlando That Is Surrounded By Two Major Highways. According to Huffington Post: "Griffin Park is surrounded by two major highways that are used by hundreds of thousands of cars heading in and out of Orlando, Florida, every day. Whatever trees once buffered the noxious fumes and the roar of cars on all sides have been cut down. From above, you see a grid of apartment buildings encircled menacingly within a loop of the interchange, as if inside a noose. The pollution in Griffin Park and its low-income Parramore neighborhood is violence of a kind Americans tend to ignore. But it is as deliberate and as politically determined as any more recognizable act of racial violence. What happened to Griffin Park was the sum of a series of choices made over the course of a century, the effect of which was to transmute formal segregation into the very air certain people breathe." [[Huffington Post, 1/23/2018](#)]

Parramore's Griffin Park Housing Project Is Encapsulated Within An "Oval Of Pollution." According to Huffington Post: "Today, I-4, State Road 408 and various ramps form the loop that encapsulates Griffin Park within an 'oval of pollution,' said Robert Cassanello, a history professor at the University of Central Florida. 'The developments, and the plans to revitalize the city, were at the cost and risk of African-American residents.'" [[Huffington Post, 1/23/2018](#)]

Parramore Is Also Located Near A Superfund Site, The Former Orlando Gasification Plant. According to Huffington Post: "Gelzer first became aware of serious pollution in the neighborhood in 2013 when she learned about a Superfund site, the former Orlando Gasification Plant. She suspected that this, along with the exhaust from the cars on the freeway, was making her community's respiratory and other health issues worse. Remediation at the Superfund site is scheduled to begin in the first quarter of this year, a city spokesperson told HuffPost. (TECO Peoples Gas, a natural gas provider that now occupies the site, is not one of the companies currently tasked with cleaning it up.)" [[Huffington Post, 1/23/2018](#)]

The Orlando Gasification Plant Left The Surrounding Ground Saturated With Coal Tar And Polluted Groundwater With Harmful Chemicals. According to Orlando Sentinel: "The factory closed in the late 1950s with the arrival of natural gas via pipelines. But the coal-gasification plant left the ground saturated with a hazardous byproduct, coal tar. The oily goop also sank more than 100 feet, infiltrating the Floridan Aquifer. In 1988, federal

investigators found chemicals associated with coal tar in the aquifer and said the probable source was the former gasification plant. [...] Investigators at the Orlando site detected coal-tar ingredients of benzene and other chemicals like those in petroleum. Some were found to have spread underground in groundwater more than a mile to the northeast.” [\[Orlando Sentinel, 11/7/2019\]](#)

A 2013 Study Showed Parramore Was Home To At Least 454 Contaminated Lots.

According to Huffington Post: “But the old gasification plant isn’t the neighborhood’s only trouble spot. There are at least 454 contaminated lots in Parramore, according to a 2013 EPA grant application from the city of Orlando seeking clean-up funds.” [\[Huffington Post, 1/23/2018\]](#)

The Child Poverty Rate In The Area Stands At 73%, And 41% Of Children Suffer From Chronic Health Issues. According to Huffington Post: “The child poverty rate in Parramore is 73 percent and the median annual household income is \$13,613. Many lots are vacant and overgrown, and most of the existing housing is considered substandard by today’s construction standards, according to a city assessment. [...] But existing data already suggest that, in an area considered medically underserved, 41 percent of children suffer from chronic health issues. And residents say they don’t need to wait up to five years to know there’s a problem.” [\[Huffington Post, 1/23/2018\]](#)

Residents In The Community Suffer From Asthma And Respiratory Problems They Believe Are Linked To The Neighborhood’s Poor Air Quality. According to Huffington Post:

“Jacqueline Young is a U.S. Air Force veteran whose granddaughter Lynette lived with her for years. She believes Lynette’s asthma and severe allergies were worsened by the neighborhood’s poor air quality. Lynette used nebulizers to ward off attacks that were sometimes so severe the girl had to be hospitalized to have air pumped into her lungs. Doctors couldn’t explain why Lynette’s asthma was getting worse, Young said. Many adults living in Griffin Park suffered from asthma and other respiratory problems as well, she said. The paramedics maintained a presence at the public housing complex. ‘Not for shootings but for health issues,’ said Young. ‘There’s always somebody in the ambulance.’” [\[Huffington Post, 1/23/2018\]](#)

FLORIDA HAS AN OPPORTUNITY TO BUILD A STRONG GREEN ECONOMY

FLORIDA'S GREEN ECONOMY

Florida Was Ranked 3rd In The Nation For Clean Energy Employment In 2019. According to the 2020 Clean Jobs America Report by E2, Florida was 3rd in clean energy employment in 2019, with the clean energy sector providing 166,032 jobs. [[Clean Jobs America Report, E2, 2020](#)]

Florida, Alongside Georgia And North Carolina, Is A Leader In Clean Energy Jobs In The South. According to the 2020 Clean Jobs America Report by E2: "While California remained the nation's undisputed leader in clean energy jobs through 2019, states as diverse in size and structure as Texas and Massachusetts also are in the top ten for clean energy jobs. Florida, North Carolina and Georgia continued to lead the South, while Michigan, Illinois and Ohio led the Midwest." [[Clean Jobs America Report, E2, 2020](#)]

SOLAR

2019: Florida Was Home To Over 12,000 Jobs In The Solar Industry, The Second Highest In The Nation. According to The Solar Foundation, in 2019 there were 12,202 solar jobs in Florida and the state was ranked second in the nation for solar jobs. [[The Solar Foundation, Solar Jobs Census 2019: Florida, Accessed 4/29/2020](#)]

2019: There Were 584 Solar Companies In Florida. According to The Solar Foundation, in 2019 there were 584 total solar companies in Florida. [[The Solar Foundation, Solar Jobs Census 2019: Florida, Accessed 4/29/2020](#)]

2019: 453,837 Equivalent Homes Were Powered By Solar In Florida. According to The Solar Foundation, in 2019 the number of equivalent homes powered by solar in Florida stood at 453,837. [[The Solar Foundation, Solar Jobs Census 2019: Florida, Accessed 4/29/2020](#)]

WIND

2019: Florida Was Home To 4,854 Direct Jobs In The Wind Industry. According to American Wind Energy Association, in 2019 the wind industry supplied 4,854 direct jobs in Florida. [[American Wind Energy Association, State Fact Sheet: Wind Energy In Florida, April 2020](#)]

2019: There Were 17 Wind Energy Manufacturing Facilities In Florida. According to American Wind Energy Association, in 2019 there were 17 active wind energy

manufacturing facilities in Florida. [[American Wind Energy Association, State Fact Sheet: Wind Energy In Florida, April 2020](#)]