CLIMATE POWER 2020

Why Climate Matters

Voters Want To Hear Climate Solutions During The Debates. Here's Why.

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WHY CLIMATE MATTERS

In 2016, presidential debate moderators failed to ask any direct questions about climate change. In 2020, the climate crisis is here and the politics of climate have shifted. Poll after poll shows voters are ready for leaders to act on the climate crisis and to invest in a clean energy future.

If we don't take action to address climate change after this next election, it may be too late to avoid catastrophic warming. That is why it is critical to have a robust discussion of climate change when candidates meet in debates this fall.

You can help make the case for climate action by getting out the facts. You can raise your voice ahead of the debates to let candidates and moderators know why climate change is such an important issue and why we need solutions.

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THIS IS OUR LAST CHANCE

IF YOU SAY ONE THING

If we don't take action to address climate change after this next election, it may be too late to avoid catastrophic warming.

KEY MESSAGE

The climate crisis is here. Strange and severe weather is becoming more frequent and doing more damage – just look at the fires raging across the West. Scientists, experts, and economists say that if we don't act, climate change will mean future generations inherit a damaged planet with even more wildfires, more droughts, more flooding and more intense hurricanes and extreme storms. The next few years are critical for reducing pollution and carbon emissions before we lock in irreversible levels of warming. Following the 2020 election, we can no longer wait to get started on climate action – the costs are too high.

KEY FACTS

If we don't take action immediately, we'll miss our narrow window and won't be able to turn back the clock.

- Trump's lack of a climate plan is projected to prevent efforts to reach zero emissions by up to a decade.
    - Without significant changes, in the next ten years the world will be emitting greenhouse gases at 30% above the level needed to contain warming to the 2 degree threshold considered safe by scientists, and 58% above the level needed for the 1.5 degree target of the Paris Climate Agreement.
    - Announcing the figures, UN Environment Program Director Inger Andersen said governments "need to act now," or "the 1.5°C goal will be out of reach before 2030."
- According to distinguished climate scientist Michael Mann, Trump's continued inaction "would probably render futile any efforts to limit planetary warming to 1.5 [degrees Celsius], which is necessary to avert ever-more catastrophic climate-change impacts."

- If warming is not contained to the 1.5°C threshold, the world will face a high risk of "cascading tipping points" that irreversibly lock in catastrophic levels of warming, including a massive dieback in the Amazon, thawing boreal forests releasing gigatons of dangerous carbon and methane, and massive collapsing ice sheets.
    - This means if we don't act soon, there will be no stopping the increases in hurricanes, heat waves, wildfires, and droughts that will cost trillions of dollars and take millions of lives.

Without action, millions will be displaced, poverty will be exacerbated, our national security will be at greater risk and even more animals and plants will go extinct.

- Without climate action,100 million people will be pushed into poverty by 2030, and by 2050, 143 million people will be displaced from their homes by climate change.
- A low carbon future would save 230 million people from living in an annual flood zone, including the 40% of the U.S. population that lives in coastal counties.
- If nothing is done, 30% of all animal and plant species on earth will go extinct by 2070, and as many as 70% if they cannot adapt to a new ecological niche.

Trump will continue packing the courts with conservative judges opposed to regulation.

- The courts have been the biggest obstacle to Trump's deregulatory agenda, blocking or delaying many of the proposed rollbacks.
- As of June 2019, no climate-related regulatory rollback brought before the courts survived legal challenge.

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CLEAN ENERGY JOBS ARE GOOD JOBS

IF YOU SAY ONE THING

American workers are being left behind as Trump wages a war against clean energy and refuses to develop high-paying union jobs in the clean energy economy.

KEY MESSAGE

Clean energy has already created hundreds of thousands of good-paying jobs and can even provide power at a lower rates than coal or gas. Yet, Trump and his Republican allies have waged a war on clean energy, eliminating incentives for wind and solar power, killing jobs, and making electricity more expensive for American families. Trump's war on energy and new technology like electric vehicles also puts us at a disadvantage to countries that are already investing in developing the industries that will power our future.

KEY FACTS

The Biden-Harris plan puts people back to work now and builds a better future for our children.

- Joe Biden has a plan to invest $2 trillion to create millions of jobs and make us carbon-neutral by 2050.
- Clean energy is the fastest growing industry in America, and clean energy jobs pay well above the national average, have good benefits, and can't be outsourced to other countries.
- Economists say that investing in bold climate and clean energy policies would create 10 million more high-quality jobs.
- Trump does not have a plan to address the climate crisis or invest in a clean energy future.

Clean energy jobs are good paying, high quality jobs that employ millions of Americans across the country.

- At the start of 2020, clean energy jobs employed nearly 3.4 million workers in the U.S., three times as many workers as employed by the fossil fuel industry.
- In rural areas, the clean energy economy employed over 400,000 people, outnumbering jobs in the fossil fuel industry by more than 82,000.
- Hourly wages for clean energy jobs exceed national averages by 8 to 19 percent, the clean energy economy offers more opportunities for low and middle-skilled workers than the national economy, and educational barriers to entry are lower in clean energy jobs, even in high paying positions.
- Most clean energy jobs are local by nature, and clean energy companies support a range of secondary jobs in their local areas.
- Wind energy is cheaper than natural gas, and in 2018, the sector alone paid $1 billion to state and local governments and private landowners in tax and lease payments, and supported a supply chain of 500 factories in 42 states employing 24,000 workers.
- Clean energy companies hire a greater percentage of veterans than the national average, with veterans filling around 10 percent of the nation's advanced clean energy jobs. Clean energy also employs more veterans than the oil and gas industry.
- The renewable energy sector is more diverse than the workforce overall: it is less white, employs more workers who identify as Hispanic or Latinx, and employs 3 to 5 times more workers who identify as two or more races than the national average.
- Clean energy jobs provide a long-proven path to stability and reintegration for formerly incarcerated citizens, who were unemployed at a rate of 27 percent in 2018 and face over 45,000 barriers to reintegration.

The U.S. risks falling behind on emerging clean energy industries while the rest of the world is making investments in their future.

- The U.S. is already falling behind to China and Europe. In 2017, nearly half of the world's new renewable energy investment came from China, and the nation is the world's largest producer of solar panels, wind turbines, batteries and electric vehicles. In 2019, the U.S. added 13 GW of

solar installations, while Europe added 16.7 and the previous year, China added 44 GW.

Electric vehicles have the potential to create millions of good American jobs.

- One estimate found that a transition to electric vehicles could generate 1.9 million new jobs.
- Electric vehicles represent the future of the auto industry (the backbone of the U.S. economy), which we can't afford to cede to China (the world's largest auto buyer), and Europe (the world leader in EV investment).
    - Led by government climate policy, Europe attracted $71 billion in electric vehicles investment in 2019, outpacing China and the U.S.
    - The Chinese government, which had already invested $60 billion into electric vehicles before the pandemic, is placing electric vehicles at the center of their coronavirus recovery package with extensions to tax breaks for electric vehicles and an investment in growing the number of charging stations by tenfold, all with an eye to increase electric vehicles from 5% of the market to 25% in the next 5 years.
    - Researchers at CSIS warn that if China takes too much of a lead, it will threaten the U.S. ability to compete in the growing market.
- Biden's climate plan calls for offering incentives or rebates to people to replace gasoline-powered vehicles with electric vehicles, and transitioning the federal government's fleet to all electric vehicles to spur demand.
- The U.S. hit 1 million electric vehicles sales in 2018.

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THE ECONOMIC COST OF TRUMP'S DENIAL

IF YOU SAY ONE THING

Climate change disasters have already cost us over $478 billion since Trump took office – with damages from the fires still burning out west already estimated to cost between $130 billion and $150 billion – and the costs of inaction will only continue to pile up until we decide to do something about it.

KEY MESSAGE

We are already paying the costs of climate change through extreme weather, droughts, and wildfires that have caused almost **half a trillion dollars** in damage since Trump took office. Ignoring this crisis will only make things worse and add to the hundreds of billions each year that our children will have to pay.

KEY FACTS

By denying climate change, Donald Trump is harming our economy right now, and putting future generations at risk.

- Since Trump took office, there have been 46 extreme weather or climate-related disasters that have caused $478 billion in damages.
- Two separate reports have warned of a potential loss of as much as 10% of GDP annually from the United States economy by the end of the century due to climate change.
    - That's more than twice the impact of the Great Recession of 2007-2009
- Another analysis pegged the future economic cost of doing nothing in actual dollar amounts at almost $700 billion per year.
- Our economy will be hurt by energy costs that will go up under climate change, by as much as $30 billion per year by mid-century as temperatures rise.

- Extreme heat also impacts worker productivity. A study in 2014 found a 1.7% decline in worker productivity for each 1°C above 15°C. This also meant a 28% loss in per-capita income on a day above 86 degrees.

Donald Trump's climate denial is also harming our farmers and putting our food supply at risk.

- Agriculture is impacted by both droughts and floods linked to climate change.
    - One drought event in 2011 cost over $10 billion in direct losses to the agriculture sector alone in Texas and Oklahoma.
    - In 2019, Midwest flooding left roughly 14 million acres unplanted.
    - The Montana Farmers Union issued a report projecting a 20 percent drop in range cattle production and a 25 percent decline in grain production by 2055.

Key state economies based on outdoor industry and tourism are already suffering the impacts of climate change and Trump's denial.

- Tourism-based economies are already being hurt by climate change
    - In the Florida keys, a 50 percent decline in coral cover has recreational diving and fishing businesses worried
    - Elsewhere in Florida, blue-green algae and red tide fueled by climate change had a devastating effect on beach tourism in 2018. One county even had to spend $7 million just to clean up dead fish from the beaches.
    - In the Rockies, snowfall has declined 41 percent since the 1980s, shortening the snow season by 34 days and threatening the $20 billion snow sports tourism industry.
    - Mountain streams fed by snowfall are also at risk of drying up, shrinking trout habitats popular with recreational anglers.

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THE HUMAN COST OF TRUMP'S DENIAL

IF YOU SAY ONE THING

Climate change is here, and communities across the country are already experiencing the devastating impacts. Our lives are on the line.

KEY MESSAGE

Scientists, public health experts, NASA and the U.S. military all agree – the climate crisis is here. Extreme weather is becoming more frequent and damaging, and impacting communities across the country right now, particularly communities of color. Our lives are on the line. It's not too late to stop the worst impacts of climate change, but Trump and Republicans' climate denial is dooming our nation now, and putting future generations at risk.

KEY FACTS

By denying climate change, Donald Trump is harming our health right now, and putting future generations at risk.

- Researchers believe that global warming is already responsible for some 150,000 deaths each year around the world.
- Excessive heat is becoming more frequent and more extreme. In the future, climate change could lead to an additional 1,200 extreme heat deaths every year.
    - More than 350 US workers have died from heat-related illness in the past decade. In 2018 alone, there were 3,120 workers that missed days of work due to heat exposure on the job.
- Climate change is affecting our access to clean drinking water.
    - Flooding from extreme rainfall last year took six drinking water treatment plants offline and overwhelmed wastewater facilities.

  - In Colorado, rising temperatures led to bark beetle infestations, which have led to elevated levels of cancer-causing trihalomethane in local water supplies.

  - Rising water temperatures have fueled outbreaks of toxic algae, contaminating drinking water sources.

- Climate change and continued reliance on fossil fuels is affecting our access to clean air.

  - Air quality is measurably getting worse under Trump, with 15% more unhealthy air days during his administration.

  - Fine particulate pollution causes severe health problems and it increased by 5.5 percent on average across the country between 2016 and 2018, after decreasing nearly 25 percent over the previous seven years.

  - Air pollution from coal power plants can include mercury, lead, cadmium, carbon monoxide, volatile organic compounds, and arsenic, yet Trump rolled back rules on emissions to help keep outdated coal power plants in operation.

  - The American Lung Association warns that pollution from vehicle exhaust and power plants can cause lung cancer, heart disease, and asthma attacks, but Trump rolled back clean cars standards against the advice of career scientists.

  - Volatile organic compounds that leak from fracking sites has been linked to health problems, but Trump blocked rules on gas leaks from fracking wells.

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WHO BENEFITS FROM TRUMP'S DENIAL

IF YOU SAY ONE THING

With our country in crisis – nearly 200,000 dead, 50 million unemployed and hundreds of thousands of small businesses shuttered – Trump's been leading us into more chaos and his top priority remains bailing out fossil fuel CEOs.

KEY MESSAGE

First, Trump and his Republicans allies put oil and coal lobbyists in charge of protecting our environment – and they immediately went to work rolling back 100 environmental safeguards, allowing corporate polluters to pump more toxic pollution and chemicals into our air and water and putting the health of millions of Americans – especially children and seniors – at risk. Then, they gave big oil and coal CEOs hundreds of billions in tax breaks and, thanks to his hand outs, Chevron did not pay any federal taxes. Now, with a pandemic still raging and the economy in recession, they are giving these same oil and coal CEOs billions more in bailouts at the same time every day Americans are struggling.

KEY FACTS

Trump didn't drain the "swamp", he turned our government over to fossil fuel CEOs.

- Nearly half of Trump's initial political appointees hired to fill positions at the EPA had polluting industry ties and almost one third worked as registered lobbyists or lawyers.
- Just halfway through his administration, a report found that Trump had nominated 281 lobbyists to serve in appointed positions.
- At the EPA, Trump first put climate denier Scott Pruitt in charge of the agency, but after Pruitt resigned in a corruption scandal, Trump nominated fossil fuel lobbyist Andrew Wheeler to take over.

- At the Department of the Interior, Trump first put climate denier Ryan Zinke in charge of the department, but after Zinke resigned in a corruption scandal, Trump nominated fossil fuel lobbyist David Bernhardt to take over.

- At the Department of Energy, Trump first put climate denier Rick Perry in charge of the department, but after Perry resigned amid scrutiny over Ukraine ties, Trump nominated former fossil fuel and auto industry lobbyist Dan Brouillette to take over.

- Meanwhile, career government scientists have been forced to stop work on climate issues, and in some cases, have been pushed out over their work on climate change. In addition, Trump's EPA disbanded a key scientific advisory panel on particulate air pollution.

Trump keeps bailing out his Big Oil and gas CEO friends.

- Fossil fuel company CEOs have raised tens of millions for Trump over the last 4 years; including contributing over $4 million towards the 2016 GOP convention.

- Even during the worldwide pandemic, Trump and his team gave between $3 billion and $7 billion in Paycheck Protection Program loans to at least 5,538 fossil fuel companies.

- More than $1.9 billion in CARES Act tax benefits went to 37 oil companies, including Marathon, which reported a $411 million tax benefit from the CARES Act alone. Marathon told investors they are expecting a $1.1 billion tax refund overall.

- Trump's tax breaks opened the Arctic National Wildlife Refuge to drilling and allowed Chevron to pay zero in federal income taxes even as they gave their CEO $33 million and laid off thousands of workers.

In addition to the billions in subsidies, Trump and his team have started or completed at least 100 rollbacks to allow his oil and gas CEO allies to pollute without consequences.

- After Marathon Petroleum ran a lobbying campaign against clean car standards, Trump eased the rules, ignoring objections from scientists who warned about the health impacts from exhaust pollution.

- Trump undermined a bedrock environmental review law to make it easier for major pipeline construction.

- After pollution monitoring requirements were waived with the outbreak of COVID-19, air pollutants in Houston's most heavily industrialized areas surged as much as 62%.
- During the pandemic, just as over half a million clean energy workers lost their jobs, the Trump administration hit renewable energy projects on public lands with huge rent bills while slashing royalties for oil and gas companies.
- There is a methane "hot spot" roughly half the size of Connecticut over the four corners area in the Southwest, yet Trump tried to roll back safeguards to stop methane leaks from oil and gas wells.

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CLIMATE DISASTERS ARE HERE

IF YOU SAY ONE THING

Trump's failed response to the coronavirus pandemic proves that he cannot lead in the face of a national crisis. Now, with unprecedented wildfires, hurricanes, and other climate disasters, it's clear: Trump can't handle any crisis facing our nation and his chaos and denial are putting our health and safety at risk.

KEY MESSAGE

While the coronavirus pandemic rages on, killing over 190,000 Americans and costing over 50 million jobs, there is another crisis bearing down on the U.S. right now - the climate crisis. From coast to coast, extreme weather events have wreaked havoc. Weather experts have issued the most threatening hurricane forecast in its 37-year history -- after already breaking several historic records, devastating wildfires and harmful pollution from the smoke are ravaging the west, and severe storms have destroyed thousands of homes and knocked out power for hundreds of thousands in the past month. Meanwhile, the Trump Administration stayed silent on the record-breaking wildfires in California and the West for more than 3 weeks. It is clear that the Trump administration is not prepared to deal with this crisis during an ongoing pandemic and his denial is putting our health and safety at risk

KEY FACTS

Check out our previous research memo from June: CLIMATE DISASTERS ARE COMING

Trump ignores scientists and lies about the danger of climate change.

- Trump was silent as more than 4.6 million acres were scorched, more than half a million evacuated, and millions were seeing the effects of the climate crisis right outside their windows with red skies and ash raining down.
- Meteorologists say Hurricane Laura's rapid intensification was a result of unusually warm water and a sign of climate change..

- Following Hurricane Laura, Trump was asked at two separate briefings about the link between climate change and hurricanes.
    - In Louisiana, Trump said "There's no way of really understanding that or knowing that."
    - In Texas, Trump said "that's the way it is."
- In 2018, when confronted about climate change following Hurricane Michael, Trump told 60 Minutes' Leslie Stahl that "scientists also have a political agenda."

By denying climate change, Donald Trump is harming our safety right now, and putting future generations at risk.

- Since Trump took office, there have been 54 extreme weather or climate-related disasters that have caused $478 billion in damages.
- There were four different billion dollar disasters in August alone: two hurricanes, devastating wildfires and a derecho in the Midwest.

Hurricanes:

- Out of the 313 million people living in the US during the 2010 census, 123.3 million people or 39% of the population lived in coastal shoreline counties at greater risk for hurricanes and sea level rise.
- In May of 2020, the NOAA predicted an "above normal" Atlantic hurricane season, expecting 13-19 named storms, including 3-6 major hurricanes. By September 15, those predictions had already been exceeded.
- One early estimate projects that property damage from Hurricane Laura may reach $12 billion.
    - Hurricane Laura was responsible for at least 25 deaths.
    - A chemical plant caught fire near Lake Charles, LA and released a dangerous amount of chlorine that forced a shelter in place order for local residents.
- As of September 15, 2020, 13,000 evacuees from Hurricane Laura remain displaced. More than 82,000 people remain without power in Lake Charles and southwestern Louisiana. And, more than 210,000 households don't have clean drinking water.

- Scientists have found time after time that human-caused climate change is making hurricanes more frequent and more intense.

Wildfires:

- *See our fact sheet on climate fires for more on the link between climate change and wildfires and the consequences of Trump's science denial.*
- As of Monday, September 14, there were 87 active large fires that have burned 4.6 million acres across several western states and have killed at least 35 people while Trump has remained silent for weeks.
- Climate change is driving the extreme wildfires we're seeing this year. Just last month, a Stanford researcher published a paper linking California's changing climate, including hotter temperatures and decreased precipitation to increased wildfires.
- According to Verisk's 2019 Wildfire Risk Analysis 4.5 million U.S. homes were identified at high or extreme risk of wildfire, with more than 2 million in California alone.
- The 2018 National Climate Assessment found "the area burned by wildfire from 1984 to 2015 was twice what would have burned had climate change not occurred."
- The 2017, 2018, and 2019 western wildfire seasons caused a combined $48 billion in damage and 163 deaths.
- The federal government's cost for fighting wildfires has grown over 10 times since 1985.

Extreme Precipitation & Flooding:

- A 2014 US Government report on climate change from 13 federal agencies found: "heavy downpours are increasing nationally…the mechanism driving these changes is well understood."
- In the Midwest, warmer, more humid air is bringing heavy downpours that caused over $10 billion in damages last spring.
    - Already in 2020, the pattern is repeating with heavy rains pounding central Michigan in May, causing two dams to burst.
    - Flooding from extreme rainfall last year took six drinking water treatment plants offline and overwhelmed wastewater facilities.

- According to a data tool from World Resources Institute that measures water-related flood risks around the world, 340,000 Americans are expected to be affected by riverine flooding by 2030

Sea Level Rise & Coastal Flooding:

- By 2100, up to 13 million Americans could be living in coastal areas that would be vulnerable to "severe and more frequent flooding."
- In coastal areas, sea level rise is already sending ocean water into streets, sewers, and homes.
    - In parts of Miami, "sunny day" coastal flooding, which happens without a major weather event is becoming routine.
    - In Louisiana, a Native American community in Isle De Jean Charles is already having to move to higher ground, becoming among America's first "climate refugees."

Extreme Heat Waves:

- This summer has been the hottest summer on record for the northern hemisphere.
- By September, the Phoenix area shattered previous records with at least 50 days with temperatures over 110 degrees this year. The previous record was 33 days.
- 900,000 people in the United States are exposed to 30 or more days per year with a heat index above 105°F.
    - That number is expected to increase roughly 100-fold to more than 90 million—or roughly 30 percent of the population—if no action is taken on climate change.
    - 3,120 incidences of heat-related workplace injuries were recorded in 2018.
    - More than 350 US workers have died from heat-related illness in the past decade. In 2018 alone, there were 3,120 workers that missed days of work due to heat exposure on the job.

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While record breaking wildfires, hurricanes and other climate disasters are destroying homes and livelihoods, Trump has repeatedly cut FEMA's budget and resources.

- FEMA's budget was cut from $12.3 billion in 2018 to about $5.3 billion in 2019.
- An additional $165 million was transferred from disaster relief and preparedness funding to go towards ICE detention beds as a part of Trump's deportation machine.
- Now, Trump's latest executive order could redirect as much as $44 billion from disaster relief funds to fund unemployment insurance because he couldn't make a deal with Congress.
- FEMA has been facing a shortage of available staff and volunteers with FEMA taking the lead on coronavirus, the country's "first 50 state disaster".
- More than 3,000 FEMA staff were already deployed to deal with COVID-19 at the start of hurricane season.
- Most volunteers are older people at higher risk from the virus. Three quarters of the Salvation Army's 2.7 million volunteers are 65 and older.
- FEMA announced plans to rely on "virtual" assistance instead of in-person services for those impacted by disasters.
- Shelter plans for people affected by disasters this year will be complicated by the pandemic.

CLIMATE POWER 2020

CLIMATE THREATS IN BATTLEGROUND STATES

Climate change affects us all in different ways and there are unique threats that affect voters in key battleground states. For example: wildfires burning the west, hurricanes in the southeast, and flooding in the Midwest.

ARIZONA

Wildfire – The Bush fire burned more than 193,000 by the end of June and was the fifth-largest wildfire in AZ history. Last year, 384,942 acres burned in 1,869 wildfire incidents across Arizona.

Extreme Heat – By September, Phoenix shattered previous records with at least 50 days with temperatures over 110 degrees this year. The previous record was 33 days. Maricopa County has also been breaking records for the number of heat-related deaths the last four years in a row. Heat related illnesses were responsible for almost 3,000 ER visits in 2018. People who work outdoors in jobs such as construction and landscaping and are increasingly having to work at night to avoid daytime temperatures.

Agriculture/Drought – Arizona is technically in its 21st year of a continuous long-term drought. Climate change is expected to have a significant impact on the availability of water for crops and livestock.

Air Pollution – Phoenix ranked 7th worst metro area in the nation for ozone air pollution and five Arizona Counties received F grades from the American Lung Association State of the Air report. The decision by the Trump administration to move forward with rolling back clean cars standards is particularly problematic for Arizona because the state is on the verge of non-attainment status that will trigger strict industrial pollution controls under the Clean Air Act, even though automobiles are the chief source of ozone pollution in the state. If pollution from vehicle exhaust continues to contribute to Arizona's worsening ozone problem, it will have effects elsewhere throughout Arizona's economy.

COLORADO

Air Pollution – In 2019, ten Colorado counties received an "F" grade for the number of days of unhealthy ozone levels, and La Plata county also received an F for particle pollution. Denver's air is among the worst polluted in the

nation. Northeast Denver is home to the most polluted ZIP code in America, where the majority Latinx community is surrounded by over two dozen active polluters, including a refinery, two busy interstate highways, diesel train traffic, two Superfund sites, and six brownfield sites.

Military Readiness – Five of Colorado's military bases are expected to be exposed to extreme temperatures by 2050: Buckley Air Force Base is currently at risk for wildfires and potentially could be at risk for future flooding events caused by climate change. Cheyenne Mountain is currently at risk for wildfires and flooding caused by climate change. Greeley Air National Guard Station is currently at risk for flooding caused by climate change. Peterson Air Force Base is currently at risk for wildfires caused by climate change. Schriever Air Force Base is currently at risk for wildfires caused by climate change. Dry conditions related to climate change contributed to a wildfires during a 2018 infantry and helicopter training exercise.

Outdoor Recreation Economy – Outdoor recreation in Colorado supports 229,000 jobs and $28 billion in consumer spending. In 2016, tourism generated $19.7 billion in visitor spending and supported more than 165,000 jobs. Climate change is causing diminished snowpack, affecting winter tourism and recreation. Ski season is shortening as the amount of snowpack in April has declined by as much as 20 to 60 percent at most monitoring sites since the 1950s. Outside of ski season, 767,000 anglers contribute over $612 million to Colorado's outdoor economy, but water temperatures is projected to reduce trout habitat by half in this century.

GEORGIA

Agriculture - Georgia agriculture generated $73 billion and supported 392,400 jobs in 2019, but climate change is projected to cut crop yields by 11.59%, including a 44% loss in oil crops (soy, rapeseed, palm, & sunflower).

Sea Level Rise – By 2100, more than 40,000 homes in Georgia at an estimated worth of $13 billion will face flooding. These homes contribute around $139 million in annual property tax revenue.

Hurricanes – Scientists know that climate change is making hurricanes more frequent and more severe, and Georgia is facing the consequences. Georgia has been struck by five hurricanes since 2016, causing billions of dollars in damages.

Extreme Heat - Currently, Georgia averages 20 extreme heat days annually, but by 2050 that number is projected to jump to more than 90. Currently,

there are 310,000 people who are particularly vulnerable to extreme heat – especially those under 6 years old, above 65 years old, or living in extreme poverty – in Georgia.

FLORIDA

Hurricanes – Florida is no stranger to major hurricanes fueled by climate change. In 2019, Hurricane Dorian hit Florida, leaving a path of destruction that caused $1.6 billion in damages. Hurricane Michael hit the Florida panhandle as a category 5 storm in 2018 causing $25.5 billion in damages across its path. In 2017, Hurricane Irma destroyed an estimated 25% of homes in the Florida Keys and left 65% with major damage.

Coral Reef Damage/Tourism – According to the 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. These reefs are experiencing ongoing outbreaks of disease and bleaching due to increased ocean temperatures.

Harmful Algae Blooms – 2018's red tide and blue-green algae problems were devastating to Florida's tourism economy. Both red tide and blue-green algae have become more and more problematic in southern Florida in recent years and both are caused by a combination of water pollution runoff and high water temperatures driven by climate change.

Blue-green algae is particularly bad in Lake Okeechobee and flows out to east through the St Lucie estuary to the Treasure Coast region and to the west through the Caloosahatchee river to the Cape Coral-Fort Myers area.

Red Tide affects the saltwater coasts of Florida and has always been known as a naturally-occurring bacteria that forms out in the gulf, but in recent years blooms have become increasingly widespread, destructive, and long-lasting as the blooms are driven by warm water temperatures and pollution runoff.

Offshore Drilling – In 2018, the Trump administration announced a 5-year plan to open up 90 percent of the outer continental shelf to oil and gas drilling. Secretary of the Interior Ryan Zinke and Senator Rick Scott held a press conference claiming they would remove Florida from the plan, however the administration never actually took Florida off the draft plan, and an official from the office in charge of offshore leasing confirmed this in congressional testimony. The plan was put on hold to wait out a lawsuit in Alaska, but is rumored to be ready to re-activate after the 2020 election.

Sea Level Rise – 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.

NORTH CAROLINA

Coal Ash – Coal ash, the residuals left behind after coal is burned for power generation, is often stored in unlined pits situated near rivers or lakes that serve to cool the power plant. As a result, these storage pits run the risk of leaking dangerous chemicals like mercury, arsenic, selenium, and lead. This especially problematic during extreme weather events, as was the case when one of Duke Energy's coal ash pits spilled into the Cape Fear River during Hurricane Florence. The Trump administration weakened federal rules on how coal ash should be stored.

Sea Level Rise – Currently, 122,000 people are at risk of coastal flooding in North Carolina and by 2050, an additional 44,000 people are projected to be at risk of coastal flooding due to sea level rise. North Carolina's Outer Banks could be broken up or lost by the year 2100.

Offshore Drilling – Recreational fishing off North Carolina's coast is a $3 billion industry that supports over 30,166 jobs, but Trump's plans to strip offshore drilling safety rules and open North Carolina's coast to oil drilling would put all of that at risk

Hurricanes – In 2019, FEMA incurred $30,680,261 in disaster costs in North Carolina following Hurricane Dorian, which caused record flooding on the state's Outer Banks. North Carolina has seen eight hurricanes in the past decade that caused a total of $336.2 billion in damages and 551 deaths.

PENNSYLVANIA

Fossil fuel development and pipeline construction – Many Pennsylvanians have fallen victim to the carelessness of the fossil fuel industry during the shale gas boom. Fracking wells have been drilled across southwestern Pennsylvania and have been blamed for methane seeping into drinking water aquifers, resulting in flaming tap water. Pipelines are also under construction using controversial horizontal directional drilling methods that have caused sinkholes as the pipeline company drilled underneath suburban neighborhoods.

Ozone - Nine counties in Pennsylvania received "F" grades for ozone levels in 2019. 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.

Harmful Algae Blooms – The great lakes have been experiencing blooms of toxic algae as a result of of pollution driven by heavy rains running off into water sources and feeding the algae that thrives in warming water temperatures. Western Lake Erie has had especially bad blooms affecting drinking water intakes in Ohio and Michigan in 2014. In 2018, it caused the closure of some beaches around the Fourth of July in Erie County, Pennsylvania.

MICHIGAN

Extreme Rainfall Flooding – Cycles of drought and flooding have turned the Great Lakes into the "erratic high seas of the Midwest." Last year, high water levels damaged property along the lakeshore and flooded tourist hot spots. This year, the Army Corps of Engineers predicts it will get worse.

Last year, Michigan was heavily affected by the climate-driven flooding that caused $10.8 billion in damages across the Midwest. In May of 2020, floodwaters caused two dams to fail, threatening a Dow Chemicals plant after the area around Midland receive 3-4 inches of rain in a very short period of time. In the future, there are twenty toxic waste sites in Michigan that are at risk of flooding and releasing contaminants due to climate change.

Harmful Algae Blooms – The great lakes have been experiencing blooms of toxic algae as a result of of pollution driven by heavy rains running off into water sources and feeding the algae that thrives in warming water temperatures. Western Lake Erie has had especially bad blooms affecting drinking water intakes in Ohio and Michigan in 2014.

Winter Recreation – The seasons for popular winter recreational activities in Michigan, such as snowmobiling and ice fishing are going to be shortened if not eliminated entirely by warming winters due to climate change. Since the early 1970s, winter ice coverage in the Great Lakes has decreased by 63 percent.

CLIMATE POWER 2020

WISCONSIN

Ozone Air Pollution – Ozone air pollution has been a problem throughout Southeastern Wisconsin and the Fox Valley/Northeast region. Southeastern Wisconsin's ozone problem was so bad that much of the region was found to be in nonattainment with air quality standards, a legal status that requires stricter air pollution controls on industrial sources, yet in May of 2018, the EPA stepped in and declared that Racine County was not part of the nonattainment area. By making this declaration over the objections of the EPA's scientists, it allowed the Foxconn plant being built in Racine County to avoid having to make costly changes to air pollution controls.

Extreme Rainfall Flooding – Wisconsin was heavily affected by the climate-driven flooding that caused $10.8 billion in damages across the Midwest in 2019. Emergencies were declared across a wide swath of Wisconsin in the spring as major rivers reached record high levels, including the Milwaukee River near Cedarburg, the Sheboygan River at Sheboygan, and Spring Creek at Lodi. Later in the fall, heavy rains caused flooding across Northeast Wisconsin and forced evacuations in Green Bay.

Harmful Algae Blooms – Inland waterways in Wisconsin and the great lakes have been experiencing blooms of toxic algae as a result of pollution driven by heavy rains running off into water sources and feeding the algae that thrives in warming water temperatures. Lake Superior, which is normally too cold to experience these problems saw an "unprecedented" bloom along the southern shoreline from near Superior, WI to the Apostle Islands.

Winter Recreation – The seasons for popular winter recreational activities in Wisconsin such as snowmobiling and ice fishing are going to be shortened if not eliminated entirely by warming winters due to climate change. Since the early 1970s, winter ice coverage in the Great Lakes has decreased by 63 percent.

CLIMATE POWER 2020

CLIMATE THREATS TO KEY CONSTITUENCIES

BIGGEST RISKS TO LATINOS:

- A 2018 poll found that 65% of Latinos report experiencing the effects of climate change in their own lives, significantly more than whites. Yale polling from the year before found that there was a 14% difference in experiencing direct effects of climate change, with Latinos reporting 53% and whites reporting 39%.
    - Latino workers are far more likely to be affected directly by climate change: in 2018 the Bureau of Labor Statistics reported that 17% of Latino workers worked in natural resources, construction, or maintenance, compared to just 10% of white workers.
- The difference is particularly pronounced among men. Twenty-eight percent of employed Hispanic men worked in natural resources, construction, and maintenance occupations, compared with 18 percent of White men.
- Latino Americans are three times as likely as white Americans to lack health insurance, leaving them especially vulnerable to health impacts from air pollution and natural disasters.
- Latino Americans are particularly vulnerable to the effects of fossil fuel air pollution.
    - A 2016 report from the National Hispanic Medical Association found that “Hispanics are 51 percent more likely to live in counties with unhealthy levels of ozone than are non-Hispanic whites.”
    - More than one in three Latinos (23 million) live in areas that violate federal standards for ozone pollution, compared to one in four Americans overall.
    - 1.81 million Latinos live within half a mile of existing oil and gas facilities.
    - Nearly 1.78 million Latinos live in counties that face a cancer risk above EPA’s level of concern from toxics emitted by oil and gas facilities.

  - Latino communities breathe in 75% more air pollution from vehicles than white residents, the most of any demographic group.
  - As a result of fossil fuel emissions, Latino children experience 153,000 childhood asthma attacks and 112,000 lost school days each year.
  - Approximately 8.5% of all Hispanic children have asthma, and 23.5% of all Puerto Rican children, which is three times higher than the rate for non-Hispanic whites.
  - A 2012 study found Hispanics had the highest exposure to 10 of 14 PM2.5 pollutants of any demographic group.
  - A study found Hispanics are exposed to 63% more PM2.5 than is caused by their consumption.
  - A study of polluting facilities found Hispanics get 15% of the pollution exposure risk, but only 9.8% of the jobs.
  - In 2017, HHS found Latino children are twice as likely to die of asthma as white.
- Latinos are particularly vulnerable to the effects of natural disasters.
  - A 2014 report from the NAACP found Latinos less likely to have homeowners insurance, making them "more vulnerable to their entire wealth being drained by a hurricane or other natural disaster."
  - A 2014 survey showed Latinos were the least prepared demographic for a major disaster in Los Angeles.
  - Latinos are 21 percent more likely than non-Hispanic whites to live in the hottest parts of cities.
  - Latinos are around three times more likely to die at work from heat-related causes than Non-Hispanic whites.
  - Latinos make up 40 percent of the population in eight Florida cities that will flood during future high tides.

BIGGEST RISKS TO BLACK AMERICANS:

- Black Americans are disproportionately at risk from extreme weather events – flooding disproportionately harms Black neighborhoods and the

long-term impact of natural disasters disproportionately falls on low-income communities of color.

- In cancer alley, Black communities face a 16% higher risk of cancer than white communities.
    - Trump rolled back chemical plant safety rules that were meant to improve hazard planning and coordination with first responders in an emergency, like the chemical plant fire the broke out following Hurricane Laura in Louisiana.
- Black Americans are already at a higher risk of extreme heat, and by 2050, counties with large African-American populations are expected to experience around 20 more extreme heat days annually than those with smaller African-American populations.
- Black Americans have higher death rates from heat related illnesses.
- Black Americans face higher exposure to air pollution, and communities of color experience higher risks of harm, including premature death, from air pollution.
- Black pregnant women are at significant risk from adverse pregnancy outcomes due to climate change. A medical review found Black mothers were at a greater risk for preterm birth and low birth weight associated with exposure to excessive heat and pollution.

BIGGEST RISKS TO WOMEN:

- In 2018, a National Climate Assessment report published by the Trump administration listed women as a group with "higher vulnerability" to the impacts of climate change.
    - The report found high temperatures were "conclusively linked" to risk of illness and death for pregnant women
- Building on a 2016 report, the 2018 National Climate Assessment found climate change made pregnant women "more vulnerable" to "anxiety, depression, post-traumatic stress, and suicidality."
- In a 2016 statement, The American College Of Obstetricians And Gynecologists wrote "that climate change is an urgent women's health concern as well as a major public health challenge."

- Women (particularly low-income women) are more likely to die from natural disasters.

- A 2020 JAMA study, covered in the New York Times, analyzed previous studies covering 32 million births and found a "significant association" between climate change and adverse pregnancy outcomes, particularly among black women.

    - One climate impact they studied was ozone and fine particulate matter (PM2.5) air pollution, which are caused by the same burning of fossil fuels that is driving the climate crisis.

- Forty-eight studies showed "a significant association" between air pollution and adverse pregnancy outcomes, including pre-term birth, low birth weight, and stillbirths.

    - Across 19 studies, the median increase in the risk of preterm birth among women exposed to fine particulate matter air pollution (PM2.5) was 11.5%.

    - Eight studies found that exposure to fine particulate matter air pollution (PM2.5) increased the risk of low birthweight by 2 to 36%.

- Studies showed exposure to ozone increased the risk of preterm birth by 3 to 9.6%

- Studies found exposure to ozone pollution increased the risk of stillbirth by 3 to 39%.

    - Study found exposure to fine particle (PM2.5) pollution in third trimester increased the risk of stillbirth by 42%.

    - Women with asthma experienced a 52% increased risk of severe pre-term birth when exposed to air pollution, according to a study.

- The other effect was rising temperatures, which are driven by climate change.

    - A study found that each temperature increase of 1 in the week before delivery increased the risk of stillbirth by 6 percent.

    - Studies found high temperatures increased risk of premature birth by 8.6 to 21 percent, with risks highest for women of color.

- In 2016, the National Climate Assessment found "very high confidence" that women "are at higher risk for distress and other adverse mental

health consequences from exposure to climate-related or weather-related disasters."

  - A review of 19 studies showed women are more at risk of developing PTSD following disasters.
  - A review of six studies found women are more likely to develop depression following a natural disaster.

- In 2016, the National Climate Assessment found women face increases in domestic violence following natural disasters.
  - A study found that the incidence of domestic violence tripled among those displaced by Katrina.
  - Women displaced by hurricane Katrina were more than 53x more likely to become victims of rape than the state baseline.

BIGGEST RISKS TO CHILDREN:

- Children born today face climate change risks including extreme heat, extreme weather events, poor air quality and disease.
- Extreme weather events are associated with the outbreaks of diseases which are particularly dangerous for children. Children face higher risk of water and food-borne illnesses, and young children are particularly vulnerable to mosquitoborne infectious diseases, which are affected by climate factors.
- Malnutrition overwhelmingly affects children under 5, causing growth and development issues. Prolonged droughts, which result in food shortages and malnutrition, remains one of the most dangerous environmental determinants of early death.
- Children are at increased risk of illness and death due to high temperatures. Young children in particular are at a greater risk of electrolyte imbalance, fever, respiratory disease and kidney failure during periods of extreme heat, and stress associated with losses from extreme weather events as a child can lead to illnesses later in life including heart disease, stroke and high blood pressure.
- Children are at a greater risk from the health impacts caused by air pollution, including fine particulate pollution. Air pollution from the

burning of fossil fuels is correlated with low birth weight and chronic respiratory diseases like asthma.