

## BUILDING IN HARM'S WAY: AMERICA'S POPULATION GROWTH PATTERN IS MAKING IT MORE VULNERABLE TO GLOBAL WARMING

**An NPG Forum Paper  
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### ABSTRACT

The United States has been experiencing one of the fastest population growth rates in the developed world for decades. The US is also considered to be a nation acutely at risk from climate change and the impacts that it will bring, and America's vulnerability to global warming is only getting worse. These two trends are related. Amidst all the talk of climate adaptation and directing societies to build up greater resilience to climate change, the US is moving in the opposite direction, expanding its population and accommodating infrastructure most aggressively in regions at greatest risk of future climate disasters. We're already seeing the results of this utter lack of forward thinking; for example, note the recent string of hurricanes that devastated some of the fastest-growing areas of the Southeast.

Most responsible federal government agencies and environmental organizations already recognize this troubling trend and understand the massive threat it poses to life, health, societies, and the economy. Their solutions are greener building codes, sustainable infrastructure, and better emergency planning to cope with the disasters that will inevitably come. Here's another solution: end population growth, and then throw it into reverse.

### BAD WEATHER

The Philippines is routinely hit by typhoons; this is hardly a secret. This Southeast Asian archipelago nation known for beautiful beaches, scuba diving, and retired Western expats is certainly no stranger to violent, extreme weather. But 2024 has been an exceptionally stormy one for the islands, even by the Philippines' standards.

This autumn, the Philippines was hit by five separate typhoons and one tropical storm in one four-week period. Four of these typhoons hit the country in a span of just ten days, one after another in quick succession. Notably, each storm made landfall at about the same point: the east coast of the island of Luzon.<sup>1</sup> Tropical Storm Trami soaked the northern Philippines with torrential rains in late October. Typhoon Kong-rey followed and went on to wreak havoc on Taiwan. Then came Typhoon Yinxing, then Toraji, followed by Usagi. Then Typhoon Man-Yi struck in mid-November, leaving hardly any time for residents to recover from the prior three storms.

Bam, bam, bam, bam—four storms slamming that nation in under two weeks. A stunning image published by NASA shows all four storms making their way across the western Pacific Ocean as if under marching orders, one of the storms having already passed over the Philippines while the other three are neatly lined up to take their turns.<sup>2</sup> The Japan Meteorological Agency, the group charged with monitoring typhoon activity in the Asia-Pacific Rim, said they had never seen anything like it since they began monitoring and

recording tropical weather in the region in 1951.

We in America haven't been paying much attention to this—likely because there's been so much other news vying for our short attention spans. But make no mistake, we'll all be paying attention when the exact same thing that happened in the Philippines this year happens in Florida in the future. This year, Florida already experienced something similar, only on a much smaller scale. Consider it a preview of things to come.

Hurricane Debby hit Florida's Gulf of Mexico coast in August. Hurricane Helene hit Florida's Gulf Coast again in late September as a Category 4 storm. Helene ripped up parts of Florida and devastated portions of Georgia and North Carolina, destroying communities in western North Carolina that lay nowhere near any coast, shocking everyone. Then Hurricane Milton hit Florida in October. That makes three hurricanes hitting Florida in two months, so a milder run of weather compared to what the Philippines went through this storm season, but it's only a sign of things to come.

Texas could be the next state to suffer a string of devastating storms in one season. I was there when Hurricane Harvey hit; that was an experience I'd rather not repeat. Maybe North Carolina will be hit again and again, or Georgia perhaps. The meteorological phenomena behind the creation of these storms work the same in the Atlantic Basin as they do in the Pacific. However, the social responses are, to date, drastically different.

Folks in the Philippines are keenly aware of the reality of climate change and the fact that these storms are occurring with greater frequency and getting more deadly. To the extent that they can, Filipinos are busy flocking to fast-growing cities further inland or on the west coasts of the main islands (news reports say that Manila, the capital, came through the typhoon season relatively unscathed). They are trying as best as they can to move away from the path of greatest danger.

We in the United States are doing the exact opposite.

Though many of us accept that climate change is a reality and that its impacts are only getting worse, the US population has been inexorably shifting away from places relatively sheltered from climate-fueled extreme weather toward those parts of the country that are without question the most vulnerable to global warming. In other words, the US population has been surging in places where it really shouldn't be, considering the risks.

Florida is slowly but surely shrinking in geographic size as sea levels rise and ocean chop erodes coastal land every day. Meanwhile, the state has been growing by leaps and bounds in population terms. For more than a decade now, Florida's population has boomed as people flood in from other parts of the country and overseas. More storms will come, and Florida's summers will get hotter and hotter, but still, people insist on clamoring for their little slice of the Sunshine State.

Texas is another booming state, the fastest-growing state in the nation in pure gross numbers. Hundreds of thousands of former residents of the East and West Coasts have pulled up roots to move to Texas, specifically the Gulf Coast metropolis of Houston. More still have landed in the Dallas-Fort Worth, San Antonio, and Austin inland corridor. Hurricanes, tropical storms, and wildfires are greeting them, but population forecasts still see more and more people coming, and I think this is an accurate projection.

Americans have been flocking to North Carolina and Georgia, as well, mostly to urban centers, located inland away from the coasts. Residents of the Northeast are no strangers to hurricanes; think Hurricane Sandy in 2012 (which I also had the misfortune to experience). But I don't imagine anyone moving from the Northeast Corridor ever seriously considered the possibility that Atlanta, Charlotte, or even Nashville, could be wrecked by any one of these storms. They should consider this a very real possibility now that we see what happened to Asheville, North Carolina, and the areas surrounding it when Hurricane Helene made landfall. Asheville was one of the fastest-growing communities in the state, and even in the whole country. Helene smashed that city into pieces. Asheville's cozy, isolated mountain setting didn't keep it safe from a hurricane.

Hurricanes and droughts for the Southeast. Raging wildfires for the mountain states like Utah and Idaho. Tornadoes for not only the Midwest but also popular destinations in Colorado and even Washington State.

Booming cities like Phoenix, Las Vegas, or Salt Lake City could one day find themselves suffering crisis-level water shortages. Denver, as well.

For years, Denver has lured newcomers to the variety of outdoor activities in the mountains, especially skiing. Lately, however, ski resorts have been struggling with shorter seasons and less impressive powder. Believe it or not, some state parks and recreation agencies are taking financial hits because of the shorter ski seasons; resorts will often lease state land but are only required to pay the rent when the slopes are open. Rocky Mountain snowfall is what keeps the water flowing to Denver, Phoenix, Las Vegas, and beyond. What these cities have in common is that they are among the most vulnerable to climate change, *and* they've been experiencing the lion's share of US population growth. The results are all too predictable.

With each successive disaster, it seems that we've learned nothing, like we're destined to repeat our mistakes forever. Florida's matchstick homes are blown apart just as easily as always. Homes in Houston flood constantly. The drywall gets ripped out and tossed onto the street, the houses are re-walled, and then they flood again—literally rinse and repeat. Pricey mountain chateaus are burned to dust in minutes. Nationwide, vulnerable people die while on casual hikes, succumbing to the extreme summer heat. Cities suffer water scares and put in place temporary bans on watering gardens to cope. And yet, people still flock to these increasingly disaster-prone areas while we in the US gladly build the additional infrastructure to accommodate them all.

America is still growing. This is unfortunate for me, as I'm a big believer in the benefits of population decline. I believe America's population is already far too high. But while the population continues to grow, it's anything but smart growth. America's population expansion has made us less wealthy, less healthy, and less happy, and now it's making us less resilient to bad weather, something that we're going to see a lot more of whether we "believe" this or not.

We're literally building in harm's way, putting our nation's rising population in the path of hurricanes, flash floods, droughts, and wildfires. And we'll continue to do this, I'm afraid, especially as we continue to lie to ourselves about the reality of global warming and just how bad things can get.

Trust me, we haven't seen anything yet.

## **THERE'S NO ESCAPING PHYSICS**

We most commonly refer to what Industrialism is doing to our planet as climate change. The phrase "global warming" has somewhat fallen out of fashion, but I've been trying to bring it back. "Climate change" is more descriptive, encompassing the litany of changing weather and climate phenomena that we've been witnessing as our civilization continues to fill the atmosphere with heat-trapping greenhouse gases. But "global warming" is fetch; it gets to the root of what's going on, which is how I start my classroom lectures on this topic: with an emphasis on the warming part, namely heat.

To deny global warming is to deny the laws of physics, and yet, we all know people in our lives who either refuse to believe in it outright (usually for political reasons) or those who harbor doubts about the science that underpins climate change. The problem I have with this attitude is neither politics nor feelings can be applied to the laws of physics, only science and math. So long as we continue to fill our fishbowl with these gases, the temperatures will rise, guaranteed.

However, simply stating this arrogantly and matter-of-factly won't convince our friends and loved ones who aren't convinced that there's a connection between fossil fuel burning and all the wacky weather we've been experiencing lately. So below, I'll offer a carefully crafted and overly simplistic explanation that can hopefully convince any doubters that the thousands of scientists studying this problem really do know what they're talking about. Try it with your friends, neighbors, and relatives if you must sit through too many holiday dinners gritting your teeth while some of those closest to you speak of climate change as if it's a giant hoax or a conspiracy against capitalism. It's not, I can assure you and them.

Let's start with heat, since that's where I start this discussion with my students.

First, I ask them: "What is heat?" Usually, no one raises their hand to answer, or the answers I do get are tautological; "Heat is the result of things heating up," or some such response. In thermodynamic terms, heat is simply the transfer of energy. This energy transfer can happen via radiation, conduction, or friction. I use that last force—friction—to explain global warming. To demonstrate, I order my students to slap their hands together and then rub them against one another as vigorously as they can. Their palms inevitably become warm as a result. "See?" I say at this point. "That's heat, the product of friction between matter and molecules in motion. Work is performed, matter is moved, friction results, and voila: heat."

Friction generates heat. A simple concept that anyone can accept, right?

Next, let's consider the difference between the lowest point at Death Valley, California, and the summit of Mount Everest. It doesn't take much for my students to agree that one is generally hot (Death Valley) and the other is usually rather cold (Everest, of course). Then I'll sometimes challenge listeners to tell me which of these two geographic areas is found closer to the Equator.

The answer is Everest; it's found at a geographic latitude of about 28° N, whereas the lowest elevation point at Death Valley lies about latitude 36° N. That puts Mount Everest nearly 550 miles closer to the equator. To the casual observer, things should get warmer the closer one gets to the Equator and colder as you venture farther away from it—Alaska is colder than Ecuador, for example. But Everest is colder than Death Valley.

"Why?" I'll ask the lecture hall.

This is where things start to click in my students'

heads. The answer, of course, is because the air at Death Valley is a lot thicker than it is at the summit of Mount Everest. Even though the peak of Everest is closer to the Equator (and technically closer to the sun), it's far colder there because of how thin the atmosphere is compared to the lowest point in California. This is what explains the vast differences in average temperatures between these two locations because air density affects temperatures.

Air is comprised of molecules. These molecules react to outside stimulation, including the impact of sunlight (photons) and the energy transfer that happens when sunlight hits air molecules. The air molecules then crash against one other, resulting in chain reactions that transfer even more energy. This motion of molecules against sunlight and each other results in friction, and this friction causes heat. And the thicker the atmosphere, the more friction you'll get and, consequently, you'll get more heat as a result. This is why it's warmer at Death Valley than at Everest—because the atmosphere is thicker, and sunlight hitting this thicker atmosphere generates more friction in the air and more heat as a result.

Fill any space with any gas and the result will be a space densely packed with that gas and more heat from any friction caused by those gas molecules hitting against sunlight and one another. All it takes is sunlight to get the motion going. It just so happens that we're thickening our worldwide atmosphere with gases that are very sensitive to getting smacked around by photons and knocking against one another, especially carbon dioxide.

A CO<sub>2</sub> molecule is comprised of just three atoms: two oxygen, and one carbon. This makes it light, but irregularly shaped. Picture one basketball attached to two soccer balls, each soccer ball connected to different sides of the basketball by a spring representing the molecular bond. Float this contraption on the surface of a swimming pool, and then hit any part of it as hard as you can with a stone (the "photon" here and, to any physicists out there, please forgive me for this horrible analogy). This three-balls-connected-by-two-springs "molecule" will bounce around for a bit, well after you've hit it. This is roughly analogous to what happens to CO<sub>2</sub> in our atmosphere when sunlight hits it: the molecules bounce around, and then knock around against one another, generating friction that lasts and causing temperatures to rise in the process. The only way the temperatures won't rise is if you stop filling that space with gas and stop thickening the atmosphere in and around that space. Or by turning off the sun. But I don't think we'd want to do that.

I enjoy scuba diving. My wife and I have our own scuba equipment, but we always rent air tanks to use on our dives. If you happen to see a dive shop filling an air cylinder you may notice that they dunk the cylinder in cold water and fill it with air while it's submerged. They do this because if they don't the tank will get hot—the process of forcefully injecting air into this compressed space until it achieves a pressure of 3,000 pounds per square inch heats the surface of the cylinder because of the friction happening inside. Dive shops find that handing hot air cylinders over

to their customers usually isn't good business, and anyway, this heat can degrade an air tank's integrity over time, so filling cylinders with air while they're partly submerged in cold water is standard for the industry.

Pollution, like compressed air, encourages greater friction in the atmosphere. Human civilization is now pumping billions of tons of carbon dioxide and other gases (like methane) into Earth's atmosphere daily, and this has been going on for generations. This is making the atmosphere thicker. The sun inevitably hits all this additional gas, and the temperatures go up and up. There's no other option. Global warming will continue to happen as long as we as a species keep filling the planet's atmosphere with lightweight, reactive gas molecules like CO<sub>2</sub>. To put it another way, if we keep making Earth's atmosphere thicker with our industrial emissions not only will temperatures go higher, but they *must* go higher. The laws of physics demand it.

I invite you all to try using that kind of above explanation on the doubters, but it wouldn't surprise me one bit if none of that works. It's worth a shot, perhaps, but too many people see self-imposed disbelief in global warming as a kind of badge of honor—it's how they demonstrate what political tribe they belong to. But nature doesn't care about their tribal affiliations; the temperatures will rise no matter what, and the United States will feel its impacts.

And what will those impacts be?

For starters, we know that warmer climates can be more humid depending on a region's geography as warmer air can hold more water in the form of water vapor. More warming will make these humid climates wetter still. The warmer the air, the greater the volume of water vapor that can be held aloft. But eventually, gravity sends it falling back to Earth. This means there's greater potential for torrential rains and devastating flooding. Houston experienced catastrophic flooding somewhere in that vast city every year I lived there, and sometimes three times a year, culminating in Hurricane Harvey, which soaked the city for days and ended up in the record books as the single greatest rainfall event in recorded US history. And it will happen again someday. Humid places, like Houston, already had a high propensity for bad rainstorms even before climate change entered the public conversation. Global warming will make the rainy places much wetter, with expected consequences.

The opposite is expected for more arid regions.

Already accustomed to fickle rain patterns, higher average global temperatures will make already dry lands even drier. That means more frequent and more intense droughts for arid regions and even worse water security for places already classified as deserts.

But a region doesn't necessarily have to be famously arid to experience drought—all places are hit by droughts at some point, including rainforests. As I'm writing this, New York City is now under a drought warning for the first time in two decades.<sup>3</sup> Wildfires are burning on the edges

of Manhattan. Many years ago, I took my wife to Sterling Forest State Park and Greenwood Lake along the New York-New Jersey border for one of our first dates. This year, the park was closed for a while in November due to an out-of-control wildfire. It wouldn't surprise me at all if next year that same area now experiencing a severe drought is inundated by heavy rains. Both extremes are becoming more likely, as are heat waves and deaths by heat stroke.

More people are killed by long stretches of extreme heat than are killed by bitter cold snaps. Governments facing large aging populations, like Japan, are very worried about what the future may hold, especially considering how in many cities, elderly people living on fixed incomes often choose to go without air conditioning to keep their costs down.

Scientists also firmly believe that global warming will deliver more erratic and violent tropical weather. This is because the oceans are getting warmer. Warm ocean water plays a key role in the formation of strong tropical cyclones. Such conditions can result in, oh, say, Florida getting smacked by three hurricanes in one season, or four typhoons hitting the Philippines in quick succession in less than two weeks.

And of course, sea levels are rising.

The damage caused by sea level rise is relative to the slope of the adjacent land. Rising seas will inundate lower, flatter, gradually sloping terrain to a worse extent, such as the land surrounding the Gulf of Mexico. Cliffsides as found in parts of the Oregon coast will experience less inundation, but they'll still see erosion. Lower lying, gradually sloping coastal areas like Florida and much of the Gulf of Mexico coast will lose huge volumes of land to rising seas. Much of coastal Miami is doomed. So are thousands of other coastal regions where millions of people live or hope to one day, and scientists are no longer shy about stating this clearly.

Because so much of the damage that global warming will deliver is already baked in, much of the discussion has shifted to adaptation and ways to make our societies better capable of withstanding what's coming. Building up better resiliency is the one thing vulnerable communities can do now while we all wait in vain for CO<sub>2</sub> emissions to drop. However, we in the United States are doing the opposite, building up in areas directly in the line of global warming's fire and adding more people to these areas, creating more future victims. Climate change experts are fully aware that this is going on and are no longer mincing words about it. Here's how the Intergovernmental Panel on Climate Change (IPCC) expresses its frustration over the matter:

“Widespread, pervasive impacts to ecosystems, people, settlements, and infrastructure have resulted from observed increases in the frequency and intensity of climate and weather extremes, including hot extremes on land and in the ocean, heavy precipitation events, drought and fire weather (*high confidence*).”<sup>4</sup>

The IPCC warns that people and nature will suffer alike if we keep pumping heat-trapping greenhouse gases into the atmosphere. The IPCC again, in its Sixth Assessment Report, noted:

“Increasingly since [Assessment Report 5], these observed impacts have been attributed to human-induced climate change, particularly through increased frequency and severity of extreme events. These include increased heat-related human mortality (*medium confidence*), warm-water coral bleaching and mortality (*high confidence*), and increased drought-related tree mortality (*high confidence*). Observed increases in areas burned by wildfires have been attributed to human-induced climate change in some regions (*medium to high confidence*). Adverse impacts from tropical cyclones, with related losses and damages, have increased due to sea level rise and the increase in heavy precipitation (*medium confidence*).”<sup>5</sup>

The World Meteorological Organization (WMO) predicts that 2024 will almost certainly end up being the hottest year on record.<sup>6</sup> The cause of this disaster is *us*. We are at the center of it because there are far too many people on this planet. This used to be an impolite thing to say, but not anymore. In a recent edition of the journal *BioScience*, a team of researchers spells it out very clearly, so we can all perfectly understand:

“In a world with finite resources, unlimited growth is a perilous illusion... We need bold, transformative change: drastically reducing overconsumption and waste, especially by the affluent,” they declared. Their work continued to suggest “stabilizing and gradually *reducing the human population* through empowering education and rights for girls and women.”<sup>7</sup> That emphasis on “reducing the human population” is mine.

## THE FASTEST GROWING US REGIONS AND THE DANGERS THEY FACE

America's population is on the move, and it has been for some time.

Over the past few decades, there's been a noticeable shift in the US population away from the Northeast Corridor and the southerly Great Lakes region to the West and Southwest. California experienced the first great influx of people moving west. Then came new migration opportunities to places like Arizona, Utah, and Colorado.

I was born in Colorado. While growing up there, it was common knowledge that among the population living in that state, the number of people who had moved to Colorado was greater than the number of people born there.

Texas is always expanding, with its population growth driven by both natural increase and a net inflow from other states and from overseas. When Texas hit a population of 14 million it was deemed a big deal at the time. Its population now stands at over 30 million—more than doubling in my lifetime. California's growth spurt has stalled, and the momentum has now shifted to America's Southeast, particularly North Carolina, Georgia, and Florida.

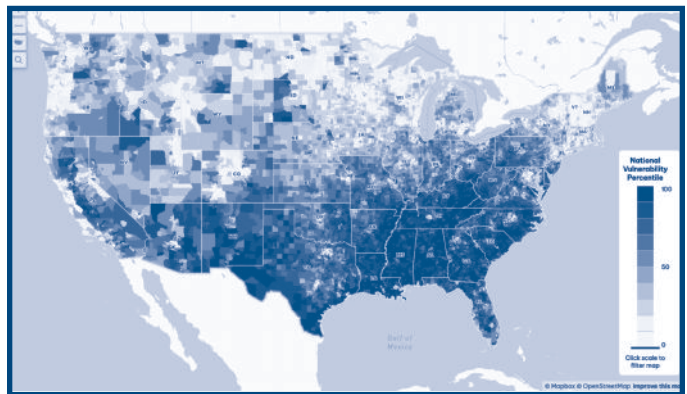
Texas, Colorado, Utah, Idaho, Arizona, Nevada, Florida, North Carolina, Georgia—the states of the

Mountain West, Southwest, and Southeast have been booming in population, growing by huge margins as the US population as a whole has exploded from about 215 million when I was born in 1977 to more than 337 million today. As I've argued previously, life in the United States has become noticeably more expensive, more precarious, and less pleasant as the US population has grown larger and larger. The population explosion continues to upend local and state infrastructure and aid. It's clear this aggressive population expansion may have been good for developers, but it clearly coincides with a stagnation in Americans' per capita income, wages, job security, and life expectancy. Maybe it's good for some interests, but it certainly does not benefit the average American worker.

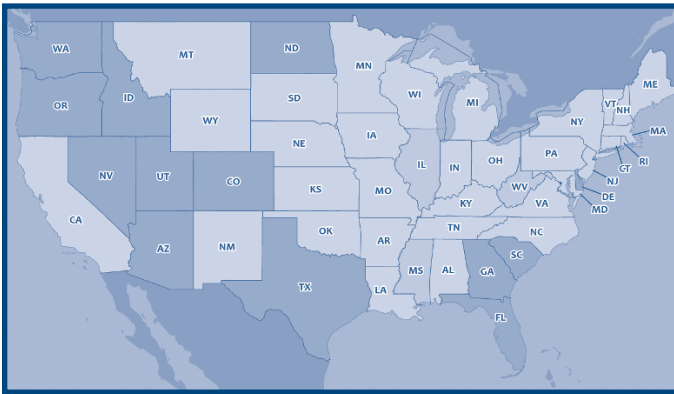
Population growth is also making the US more vulnerable to global warming.

Developers are literally building in harm's way. US migration patterns are putting additional population and infrastructure in the path of danger, where storms, sea level rise, heat waves, and wildfires promise to make our lives more tenuous than ever before.

The Environmental Defense Fund, Texas A&M University, and Darkhorse Analytics have compiled a US Climate Vulnerability Index and Overall Climate Vulnerability map to demonstrate how the rise in US population and its shift to the west and south promises more smashed cities, flooded homes, charred communities, and heat wave emergencies to come. The map alone should be enough to convince anyone that we have a real problem on our hands. It's a broad measure of vulnerability, incorporating not only infrastructure, but also threats to health, economic vulnerability, and risks to the environment. Look at the map they've put together below.<sup>8</sup> Do you notice a pattern?



Darker colors indicate enhanced risks posed by climate change; lighter colors suggest relatively fewer risks. No place on Earth is entirely free of the risks global warming poses, but climate scientists broadly agree that the southern portion of the United States is particularly vulnerable. You only need to watch the nightly news on any given evening to see how right they are. This map could easily be mistaken for one designed to show where the US population has grown the most over the past 10 years. In fact, the US Census Bureau has helpfully generated such a map following the most recent national census.<sup>9</sup> See below:



Credit: US Census Bureau

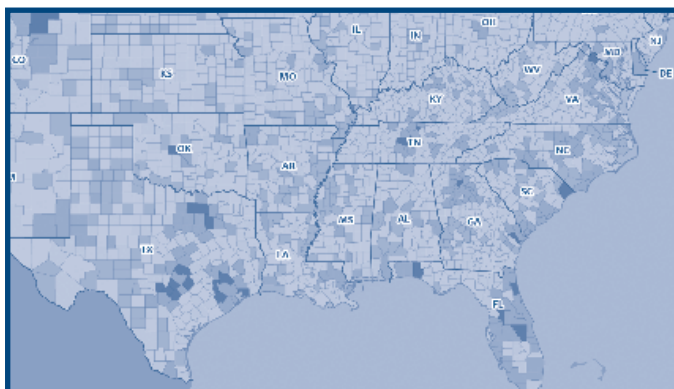
Darker blue shows which states have expanded in population by more than 10% from 2010 to 2020. Light blue states expanded in population, as well, but not as much. Light-colored states have experienced net population declines over the same period. Among the fast-growing states, Washington, Oregon, and Idaho were deemed relatively less vulnerable to global warming, but I would argue that a reassessment is in order here given more recent news—Seattle was cooked by an intense heat wave this past summer, while the Oregon State Parks Authority is finding itself confronting wildfires more frequently than it used to.

The other dark blue states are obvious “in the line of fire” case studies. The population of Texas continues to grow and grow even as it gets walloped regularly by wildfires, heat waves, devastating cyclones, and monsoon-style rainstorms that seem to force thousands into shelters every year. Florida’s population is now larger than New York’s and, as we all know, it just got smacked by three hurricanes in one season. Southern Arizona is already notoriously hot and it’s only getting hotter, while the northern half of the state sees wildfire risk increasing every year. Georgia and the Carolinas are just as vulnerable to hurricanes as Florida, even communities far inland.

Texas	1980 pop: 14.23 million	2020 pop: 29.36 million
Florida	1980 pop: 9.75 million	2020 pop: 21.73 million
Georgia	1980 pop: 5.46 million	2020 pop: 10.71 million
North Carolina	1980 pop: 5.88 million	2020 pop: 10.6 million
Colorado	1980 pop: 2.89 million	2020 pop: 5.81 million

Source: United States Census Bureau

Here’s another Census map based on the same data, only showing changes in population from 2010 to 2020 at the county level. I’ve cropped it to focus on Colorado’s Front Range and the Southeast.<sup>10</sup>

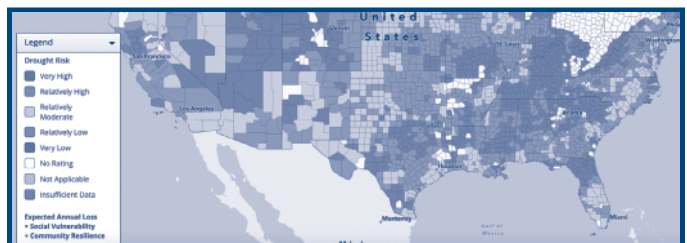


Credit: US Census Bureau

This is a finer-grained look showing how America is expanding and concentrating its population where global warming threatens to inflict the most damage. That dark blue spot north of Denver is Weld County, where I grew up and where a shale oil boom explains the population growth there. But Denver and the Front Range have shown a noticeable increase in population. The cities of the Texas Triangle have seen tremendous population growth, of course, as have the Florida Peninsula and Panhandle regions. In this finer-grained map, you can also see the concentration of population in popular, fast-growing urban counties in Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Arkansas, and Oklahoma. Most Midwestern counties recorded net population declines. Every single one of those counties in the Southeast and Colorado Front Range shown on the Census map experiencing rapid population increases is deemed to be at moderately high to high risk on the Climate Vulnerability Index map.

This explains why the Federal Emergency Management Agency (FEMA) nearly ran out of emergency response funds this year. With fires, floods, and hurricanes—all hitting what are fast becoming the most populous parts of the United States—and basically all at the same time, no wonder it’s getting increasingly difficult for FEMA to keep up and mount an adequate response. FEMA succeeded this year, admirably, but just barely, and after loudly warning that its cash reserves came precariously close to running out.<sup>11</sup>

FEMA also maintains a national Drought Risk Index that they’ve mapped out, as well. Here it is below, cropped to focus on the Southeast and Southwest.<sup>12</sup>



Credit: US Census Bureau

In terms of drought risk, California is in a league of its own, but so is southern Arizona, where people have been moving in droves, lured for years by a lower cost of living and relatively strong job market. The Texas Gulf Coast and large swaths of North Carolina are deemed to be facing relatively moderate drought risk. Southern Florida is deemed to be at relatively moderate to relatively high risk of future droughts.

Interestingly, FEMA doesn’t believe Las Vegas faces any serious risk of droughts in the near future. I think they should take a second look at this.

The Colorado River, the main source of water for millions of city dwellers, is drying up.<sup>13</sup> Most of the blame for this can be put at the foot of agriculture, but the communities most dependent on the Colorado River are partly responsible for their plights in a sort of self-fulfilling

prophecy; with swelling populations, cities like Las Vegas and Phoenix risk drinking the Colorado dry (Phoenix metro via a massive canal system called the Salt River Project).

The Colorado River is 100% fed by snowfall accumulating every year in the high peaks of Colorado's Rocky Mountains. The snowpack isn't lasting like it used to, and it's getting thinner; studies have confirmed this.<sup>14</sup> The winter of 2023-24 was considered a snow drought for Colorado's high country. Las Vegas, Phoenix, and St. George, Utah are located within the Colorado River Basin and depend on the river for their drinking water, but the river is a critical resource for cities well outside of the Basin, especially the Los Angeles metro area and even fast-growing Salt Lake City. And let's not forget the hydroelectric dams fed by the Colorado that supply metro areas with electricity. Drought in the Colorado River could mean the lights go out in these cities.

Annual snowpack declines are showing worse trends in the Pacific Northwest, so the minds behind the Climate Vulnerability Index might want to take another look at that region's profile, as well. Folks in Seattle used to get by just fine without air conditioning in the summer. They're now quickly changing their minds.

An honest reading of the drought risk map shows how risk is a bit more evenly spread out. It's worst in the arid Mountain West and Southwest (unsurprisingly) and relatively moderate in much of the Midwest. The New York-New Jersey area deserves a mention here given recent news of the more than 300 wildfires that have struck the region.<sup>15</sup> But all of these maps point to one central fact: a major portion of the US population is expanding and concentrating in exactly the places where it shouldn't be, places that will face global warming's wrath more acutely than other regions like the Great Lakes or Upstate New York, which are poised to record modest population declines.

## THE COMING STORM

In its zeal to grow its population as quickly as possible, the United States is setting itself up for an endless string of deadly and massively expensive natural disasters that will strain the government's emergency response capacity to the breaking point given where the additional people are choosing to live.

The insurance industry is absolutely alarmed and is already acting. Insurance companies are either skyrocketing their rates or taking preemptive measures, outright refusing to offer coverage to homeowners for properties that are quite literally in the path of future devastating storms. In what may be one of the greatest ironies in American politics, Southeast state politicians supposedly committed to purely free market economics while outright rejecting the science underpinning global warming (or even banning any mention of climate change from government correspondence) are being forced to set up socialist government-run insurance schemes as private sector insurers refuse to touch the riskiest areas. Why? The answer is simple, says the Environmental Defense Fund (EDF): more extreme and erratic weather, along with "the

growing expense of rebuilding, high cost of reinsurance, and continued development in areas prone to disasters."<sup>16</sup>

Building up new infrastructure and expanding the population in "areas prone to disasters" isn't smart purely from a financial point-of-view, EDF says. "Insurance companies are abandoning certain locations, even entire states," the nonprofit warned in a recent note. To drive the point home, EDF notes that the hurricanes that struck Florida and Louisiana put several insurance companies out of business, and the surviving companies are offering less coverage, with some insurers refusing to cover flood and wind damage even in hurricane zones.<sup>17</sup>

As I've already complained, those who deny global warming are denying the very laws of physics. They can deny climate change all they like; the storms are still coming, and they will bring death, destruction, bankruptcies, and massive government debt burdens with them.

EDF believes the answer is better building codes. The growth will come, that organization argues; our best response is better planning and investments to make our communities stronger and more capable of withstanding the worst that global warming will bring. Once our infrastructure is stronger, it should be easier and cheaper to insure, EDF says. I think this is all much easier said than done. For starters, it begs the question of who will pay. Is it fair to tax someone living in an urban high-rise to pay to fortify someone else's three-story beachfront villa on the Outer Banks? Should your tax dollars be used to help insure a coastal home that you could never even dream of affording to buy? Will inland communities that never see a tourist be forced to pay to replenish the eroding beaches of the coastal tourist hotspots? Can you even build a single-family beachside home capable of withstanding a Category 6 hurricane (a proposed but not-yet-realized extension to the now maximum Category 5 rating) and the epic storm surge it carries, let alone one capable of surviving a direct hit by a tornado? Asheville, North Carolina thought it was safe from these storms, and we all see how that worked out.

Our nation's elected leaders must accept that population growth can be stopped—and even reversed. Many naively believe that growth is inevitable, like gravity, and that we must simply accept it without challenge. They are simply wrong. If insurance companies are pulling out of these regions, well, maybe that's a sign that the people should follow them. Why should we keep subsidizing these weakest points in our nation's domestic defenses? How does expanding in the most vulnerable parts of our country make any sense whatsoever? It's time to stop the growth, stop the population surge, and then explore ways to move these vulnerable populations out of these increasingly dangerous danger zones. Like I said: halt population growth, especially in these areas, and then throw it into reverse.

We should start acting smarter and put in place incentives to move people out of harm's way. The status quo will simply deliver more of the same: more pricey disasters, more deaths, more destruction, and more pointless handwringing.

## NOTES:

1. "Super typhoon Man-Yi makes landfall on Philippines main island." Kathryn Armstrong, BBC News, November 16, 2024.
2. "NASA captures unprecedented quadruple typhoon event in stunning detail." Emily Cassidy, NASA Earth Observatory, SciTechDaily, November 15, 2024.
3. "New York City drought warning declared for the first time in over 20 years." Hillary Howard, New York Times, November 18, 2024.
4. IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3-33, doi:10.1017/9781009325844.001.4.
5. Ibid.
6. "2024 is on track to be hottest year on record as warming temporarily hits 1.5°C." World Meteorological Organization, press release, November 11, 2024.
7. William J Ripple, Christopher Wolf, Jillian W Gregg, Johan Rockström, Michael E Mann, Naomi Oreskes, Timothy M Lenton, Stefan Rahmstorf, Thomas M Newsome, Chi Xu, Jens-Christian Svenning, Cássio Cardoso Pereira, Beverly E Law, Thomas W Crowther, The 2024 state of the climate report: Perilous times on planet Earth, *BioScience*, 2024; biae087, doi:10.1093/biosci/biae087.
8. "US Climate Vulnerability Index." Environmental Defense Fund, Texas A&M University, and Darkhorse Analytics.
9. "2020 Census Demographic Data Map Viewer." United States Census Bureau.
10. Ibid.
11. "FEMA head sounds the alarm over disaster funding after double hurricanes." Rebecca Santana, Associated Press, November 20, 2024.
12. FEMA National Risk Index, Drought. Federal Emergency Management Agency.
13. "The Biden administration is trying to throw a Hail Mary to save the Colorado River before Trump takes over." Ella Nilsen, CNN, November 20, 2024.
14. "Climate change is a threat to Colorado's snowpack. What does that mean for the water in your tap?" Shannon Mullane, The Colorado Sun, January 9, 2024.
15. "Is the Northeast entering its wildfire era?" Hillary Howard, New York Times, November 19, 2024.
16. "4 ways climate change is impacting home insurance, putting us at risk." Environmental Defense Fund, October 4, 2024.
17. Ibid.



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**NOTE:** The views expressed in this article are those of the author and do not necessarily represent the views of NPG, Inc.



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