GlobalResearch
Center for Research on Globalization

Scientists Predict There Will Be No Glaciers in the Contiguous US by 2050 — but Trump Is Stomping on the Gas Pedal

By Dahr Jamail
Global Research, May 23, 2017
Truthout 22 May 2017

Region: Canada, USA
Theme: Environment
In-depth Report: Climate Change

This article is originally published on Truthout.

Given that life originated in the oceans, it should be cause for concern that a recently published study revealed that the depletion of dissolved oxygen in Earth's oceans is occurring much faster than previously believed.

Anthropogenic climate disruption (ACD) is recreating the conditions that caused the worst mass extinction event on Earth, the Permian mass extinction that took place approximately 250 million years ago and annihilated 90 percent of life on Earth. Dramatic oceanic warming and acidification were key components of this extinction event, and that is precisely what we are seeing today.

> "The trend of oxygen falling is about two- to three-times faster than what we predicted from the decrease of solubility associated with the ocean warming," **Professor Taka Ito**, a lead researcher on the study, said in a press release. "This is most likely due to the changes in ocean circulation and mixing associated with the heating of the near-surface waters and melting of polar ice."

The fact that as CO2 warms the planet, oxygen in the oceans will decline, is not a new revelation. Basic physics tells us that water is unable to hold as much dissolved gas when it is warm compared to when it is cold.

But instead of taking studies like this one seriously, most global governments, with the Trump administration leading the charge, remain loyal to the agenda of the oil and gas industry.

Meanwhile, a recent study using updated projections of Antarctic ice mass loss revealed that global sea levels could rise by more than three meters (more than half a meter greater than previously believed) by 2100.

Meanwhile, most of the world's glaciers continue to melt rapidly.

In the US, the iconic Glacier National Park will need to consider changing its name, as a recent report reveals that there are already only 26 glaciers left there. In the latter 19th

century, the park was home to 150 glaciers. The same report states that it is “inevitable” that the contiguous US will lose all of its glaciers by 2050.

Amid these developments, another recently published study shows us that ACD is set to accelerate. Natural cycles in the Pacific Ocean will switch from acting as a break to acting more like an accelerator. This pattern, known as the Interdecadal Pacific Oscillation — a cycle that lasts 10-30 years and affects how much heat is absorbed in the Pacific — is set to shift to its “positive” phase, meaning Earth is set to reach higher temperature projections sooner than previously believed.

This is a sobering thought, given that, as this dispatch will demonstrate, our planet is already well along the path of runaway ACD.

Earth

Signs of ACD morphing the planet abound.

The warming Arctic climate has caused woody shrubs to spread far northward into the tundra, which has enabled several animal species that were previously foreign to the Arctic to move north. Moose and snowshoe hares had already established themselves there in response to the new woody growth, but now beavers have moved into the Arctic as well.

Meanwhile, a moose-killing tick infestation is spreading into the far north with the warming climate. The small but dangerous winter tick, which has already devastated moose populations across New England and the upper Midwestern US, is now in Canada’s Yukon and Northwest Territories and threatening to enter Alaska.

> “Now that they’re moving farther north through Canada, north and west, they’re eventually going to arrive here, if they’re not here already,” **Kimberlee Beckmen**, wildlife veterinarian for the Alaska Department of Fish and Game, told the Alaska Dispatch News. “We will be next. It’s only a matter of time.”

Tens of thousands of ticks attach themselves to a single moose, causing the animal to spend much time and energy scratching itself and wearing away their fur, instead of eating. Becken told the Alaska Dispatch News,

> “It makes them waste away and eventually freeze and starve to death. … It’s pretty horribly devastating.”

Food crops are also under threat. Along with ACD-fueled droughts, humans are depleting vital groundwater resources across Earth, and now the international food trade is a massive contributing factor to the ongoing depletion. A study released at the end of March showed that staple crops like rice, maize, soybeans and wheat could vanish as ongoing groundwater depletion continues apace.

Water

As usual, the stunning progression of abrupt ACD is most evident in the watery realms.

Yukon River (Source: Flickriver)

An abrupt major change in the direction of the Yukon River due to a rapidly melting glacier in a mere four days was reported in a recently released study. The huge glacier, which was three-miles wide and covered 10,000 square miles, retreated so rapidly due to warming temperatures that its meltwater carved a new path that cut off the flow of one river and channeled most of the flow into a different river. Scientists named the phenomenon "river piracy" and linked it directly to the rapidly warming climate of that region of Canada, which is being dramatically transformed by ACD.

In fact, Canada is melting before our eyes. Thawing permafrost, which covers roughly half of the country, is melting at an accelerating rate, as is all of the Arctic permafrost in other countries.

> "You can really see the effect of the permafrost," **Jim McDonald**, mayor of the town of Inuvik in the Northwest Territories of Canada, told the CBC. "The seasonal thaw is getting deeper now, and that wreaks havoc."

In the same report, permafrost expert **Kumari Karunaratne** with the Northwest Territories Geological Survey, spoke of the amount of methane being released in the area.

> "It scares me," she told the CBC. "This methane that's being released is being released over huge areas across the north. And it's continually seeping out."

Adding to this issue, diseases and viruses that had been trapped in ice and permafrost for centuries are now being revived by the warming planet.

An anthrax outbreak in Siberia last year resulted in a death and 20 people being hospitalized, and experts warn that we may also see re-emergences of the Spanish flu, smallpox and even the bubonic plague, thanks to melting permafrost.

Meanwhile, scientists have reported that most alpine glaciers will be gone by the end of this century. In the Alps, glaciers have lost half their total volume since just 1900.

> "Between October 2015 and September 2016, Austria's glaciers receded by an average 14.2 meters (46.6 feet), with a record retreat of 65 meters (213 feet) measured at the Hornkees Glacier in the Zillertal Alps of western Austria,"

> reads a recent report, which added that of 90 glaciers that were being monitored, no fewer than 87 of them had retreated.

A survey of continental Antarctica published in April revealed water, literally, streaming across the surface of the ice continent.

> "This is not in the future — this is widespread now, and has been for decades," lead author of the study, **Jonathan Kingslake,** a glaciologist at Columbia University's Lamont-Doherty Earth Observatory, said in a press release of the study. "I think most polar scientists have considered water moving across the surface of Antarctica to be extremely rare. But we found a lot of it, over very large areas."

Polar scientist **Robin Bell**, a co-author of the study, added,

> "This study tells us there's already a lot more melting going on than we thought. When you turn up the temperature, it's only going to increase."

Based on new evidence, the Arctic Council — a cooperative effort among eight nations to monitor climate change — concluded that the Arctic warmed faster between 2011 and 2015 than any time on record, with glaciers and sea ice melting faster than expected. That means a United Nations estimate for sea rise, considered among the most conservative, could be off by as much as 10 inches. This means more flooding for already-vulnerable populated areas like South Florida.

University of Miami atmospheric scientist **Ben Kirtman** told Truthout that, since cities like Miami and Miami Beach are situated downstream in the ocean's huge circulatory system, the Eastern Seaboard and South Florida in particular will experience "an excessive rise."

> "Certain parcels of land are going to have to be returned to the environment," Kirtman told Truthout, while discussing future predictions of sea-level rise and what they would mean to South Florida. "What buildings are just not going to be resilient and not be invested in? Those are the decisions we are faced with in the regional adaptation problem."

Data from a US National Oceanic and Atmospheric Administration (NOAA) report from this January show that the federal government had increased its worst-case scenario for sea-level rise to up to an average of more than eight feet by 2100.

Some excellent graphics have been produced by Climate Central, based on that data, showing what certain cities will look like with that much sea-level rise. These are most assuredly worth looking at, as they provide a glimpse of the toll ACD will take over a relatively short period of time. They even include a visual of a submerged version of Trump's Mar-A-Lago luxury resort. On a more somber note, under NOAA's worst-case scenario, portions of New York City that are currently home to nearly 1 million people would be completely underwater, according to Climate Central's analysis of the data.

On that note, a recent Bloomberg News report discussed some of the financial impact of the coming crisis: It is highly likely that demand and financing in South Florida could collapse

long before rising sea levels consume their first home, which would be a nightmare scenario for coastal homeowners in Southern Florida. The aforementioned NOAA report showed that sea levels could rise by as much as three feet in Miami alone by 2060, and the Bloomberg article added,

> "By the end of the century, according to projections by Zillow, some 934,000 existing Florida properties, worth more than $400 billion, are at risk of being submerged."

However, several sea-level rise experts Truthout has interviewed recently predict that even the NOAA worst-case predictions for sea-level rise could fall far short of what reality could bring. (More on that to come in a feature story next month.)

 Meanwhile in Canada, the Ottawa River (image on the right, source: allposters.com) has reached its highest level in decades, and a number of homes along the river were recently flooded.

Lastly in this section, a recent study published in the journal Nature showed that ACD is making oceanic algal blooms worse, due to warming ocean temperatures that are causing them to be more intense and have longer-lasting toxic outbreaks. Algal blooms are runaway algae growths that can kill marine ecosystems and wipe out coastal economies reliant upon them. The blooms can become toxic enough to kill marine life, and sometimes even turn the water different colors. This is the first time the increasing algal blooms around North America have been linked to ACD on an oceanic scale.

Air

Around the globe, our air continues to heat up. India saw incredibly hot temperatures beginning as early as February — two months earlier than normal — and by April life-threatening temperatures between 100 and 115 degrees Fahrenheit covered much of the country. This means that the length of the hot season has nearly doubled, and drought has continued to plague the country as well.

Desperate farmers across India have been engaged in nationwide protests, schools have had to close early due to the heat, and Kerala has seen water stress reach levels not seen in the last 115 years.

Rising temperatures around the globe are, of course, tied to CO_2 emissions, and the direct evidence of those emissions continues to climb, too. Up in Alaska, thawing permafrost has been causing a surge in CO_2 emissions, which are now outpacing the amount of CO_2 they

uptake during growing season, according to a recent study. This is critical news, as it means this region of the Arctic, which is vast, could well now become a net source of carbon emissions, rather than a region that pulls carbon from the atmosphere during the growing season.

A May report from Climate Central shows that a large number of US states have already been experiencing their hottest year to date. From New Mexico over to Florida and up to Ohio, this year has been a record hot year so far. And for the entire contiguous 48 states, 2017 has been the second warmest in records dating back to 1895.

Fire

On Earth Day, April 22, as large numbers of people marched in support of climate scientists who are besieged by the Trump administration, wildfires burned in Siberia. With some of the smoke even visible from space, the fires had already burned a large expanse of land. By the next day, one fire in central Siberia burned approximately 10,000 acres in only one day.

These events follow similar wildfire outbreaks in the region during the last three years, but this year's fires are happening further north and over a wider area than previous years.

And speaking of being able to see wildfires from space, the same can be said about one burning in the Okefenokee National Wildlife Refuge, which has consumed more than 130,000 acres. The so-called West Mims Fire, which is burning along the Georgia-Florida line, is one of at least 88 fires in Florida that have been caused by lightning this year, which is 83 percent more than in the same period last year.

Thus far, Florida has seen more wildfires this year than it has in the last several decades.

Denial and Reality

Now that we are living in Trumpistan, the denial section of this dispatch will never have a shortage of material.

In April, the Department of Energy headed by none other than Texas oil-fuel politician Rick Perry, was said to have plans in action to change its website to reflect Trump's so-called climate agenda by cutting down on language that touted renewable energy sources as replacements for fossil fuels.

Not to be outdone, Oklahoma gas-man Scott Pruitt's main ACD page at the EPA's website was said to be "undergoing changes" to reflect "the agency's new direction" less than 24 hours before thousands of protesters gathered in Washington, DC, and other US cities to speak out against US inaction around ACD.

Emboldened by the Trump junta, ACD deniers are now trying to make the case that carbon pollution is harmless.

Thankfully, there has been pushback.

The famous astrophysicist **Neil deGrasse Tyson** recently slammed science deniers for, as he put it, the "dismantling of our informed democracy" in an online video that generated more than 16 million views.

Also recently, scientists who are under siege by Trump administration policies marched in Washington during a broadly supported March for Science.

Meanwhile, the progression of ACD is showing no signs of letting up, as atmospheric CO2 levels passed the 410 parts per million (ppm) threshold.

> "In what's become a spring tradition like Passover and Easter, carbon dioxide has set a record high each year since measurements began," wrote Andrew Freedman on Climate Central. "It stood at 315 ppm when record keeping began at Mauna Loa in 1958. In 2013, it passed 400 ppm. Just four years later, the 400 ppm mark is no longer a novelty. It's the norm."

***Dahr Jamail**, a Truthout staff reporter, is the author of The Will to Resist: Soldiers Who Refuse to Fight in Iraq and Afghanistan (Haymarket Books, 2009), and Beyond the Green Zone: Dispatches From an Unembedded Journalist in Occupied Iraq (Haymarket Books, 2007). Jamail reported from Iraq for more than a year, as well as from Lebanon, Syria, Jordan and Turkey over the last 10 years, and has won the Martha Gellhorn Award for Investigative Journalism, among other awards.*

Featured image: Jay Ruzesky; Edited: LW / TO
