

Over One-Tenth of Global Population Could Lack Drinking Water by 2030



As civilization faces existential threats, Trump is trying to end long-term climate studies. Meanwhile, the global water crisis spurred by climate disruption continues to unfold dramatically. Sawitree Pamee / EyeEm

By [Dahr Jamail](#), [Truthout](#) Published July 1, 2019

Outside on my front porch, alder chip smoke billows out of my small smoker. The racks inside the tin smoker are filled with wild-caught Alaskan Coho salmon, provided to me by my friend Jonathan. He and his wife take their three daughters in their fishing boat and head north from our town on the north coast of Washington State's Olympic Peninsula for the late summer salmon runs in Southeastern Alaska. They return with a hull full of frozen fish, for those of us here lucky enough to have placed our orders for it.

Several friends here attached to the land where I live are also outside, busy doing their own things: one is preparing his sailboat to launch in a week, another is working in the garden, two others are pitching a tent, another is out working his summer job with the Washington Conservation Association, and still another is reading and contemplating what she might write in the next column we co-author for *Truthout*.

It is truly idyllic. A dream I've had for decades is finally coming true: I'm living in a way that is



close to the Earth, which enables me to minimize my carbon footprint. I'm growing much of my own food and living in community with like-minded people.

Yet all is taking place against the backdrop of a global climate crisis. Runaway human-caused climate disruption is already making life unlivable for millions around the globe, and is an integral reason why we are already in the Sixth Mass Extinction Event.

Each of us in this small community of ours is fully aware of the crisis that is upon us. We understand we are living in a bubble, in that we are able to grow much of our food, smoke this fish, go for hikes, share healthy meals, and have enough water to do all of this. Our conversations tend to run the gamut: ranging from discussing the latest breakdowns of portions of our global life support system, to when are we going to hang the bat house, to where to put the clothesline, to what happens when the cities run out of food, to when am I leaving for my next climbing trip.

Meanwhile, the news of the collapse continues to roll in.

A [recent study](#) published in the Proceedings of the National Academy of Sciences showed that sea-level rise could be twice as bad as previously expected, due to accelerated melting in the Antarctic and Greenland. Instead of the previous worst-case scenario of 1 meter by 2100, the study has doubled that figure. Several scientists this writer has interviewed believe the realistic figure of sea level rise by 2100 will be even higher than this recent study's prediction.

[Another report](#) showed how the state of Florida could be facing a \$76 billion bill to mitigate and adapt to climate crisis impacts by just 2040, mostly from rising sea levels.

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To give you an idea of how far along we already are in this crisis, in some areas of China, fruit trees have to be [pollinated by hand](#) due to lack of pollinators. Climate disruption is a major contributing factor toward the loss of insects around the planet.

The Arctic, our proverbial canary in the climate coalmine, just saw its [hottest May ever recorded](#). Coastal erosion of permafrost is happening at a rate of up to one meter every day, and the current rate of coastal erosion is already six times higher than the historical rate.

In Siberia, carbon-laden permafrost has [warmed by 1.6 degrees Fahrenheit \(1.6°F\)](#) in just the last 10 years alone. This is an ominous sign, for as the permafrost thaws it releases carbon and methane, making this one of the most dangerous feedback loops in the climate crisis, given that permafrost around the globe contains twice the amount of carbon that is already in the atmosphere. In fact, it has now been shown that the permafrost is [thawing 70 years sooner](#) than previously predicted.

According to a [2017 study](#), tundra in Alaska is already warming up so quickly that it has become a net emitter of CO2 ahead of schedule — rather than sequestering carbon, as it has historically done. Thawing is occurring so rapidly in the Arctic now, [sinkholes](#) are becoming increasingly common across the region.

To make matters worse, Arctic sea-ice extent for early June was at [a record low](#), and the ice could be on track now for a record melt year at the current trajectory.

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Underscoring the severity of the crisis, yet another [well-researched report](#) has recently been released warning the end of human civilization could be on the horizon if we don't change

course. In the report, climate scientists predict 2050 as the year we face complete climate catastrophe.

[The authors predict](#), “More than a billion people may need to be relocated, and in high-end scenarios, the scale of destruction is beyond our capacity to model, with a high likelihood of human civilisation coming to an end.”

They [found](#) that by 2050, total ecological collapse could bring about huge social consequences like “increased religious fervor to outright chaos.” The report warns that catastrophic environmental disasters could result in widespread pandemics, forced migrations from places that no longer support humans, and the spread of war over diminished resources.

The [report describes](#) one possible scenario, in which “planetary and human systems (reach) a ‘point of no return’ by mid-century in which the prospect of a largely uninhabitable Earth leads to the breakdown of nations and the international order.”

It would be an error to think there is that much time before this kind of breakdown. If you live on the delta in Bangladesh, or in Paradise, California, or on the coastline of northern or western Alaska, the crisis is already upon you.

Earth

Extreme weather events fueled by human-caused climate disruption are already severely affecting food production, causing food price shocks in the U.S. A [report](#) focusing on the recent flooding in the Midwest illustrated how rain-sodden fields across the Corn Belt, along with massive numbers of drowned livestock, are contributing factors. This issue is only set to deepen.

Meanwhile, despite the fact that human-caused climate disruption is, in many ways, a geoengineering experiment gone badly, ongoing discussion within the scientific community of

using geoengineering to completely solve it continues to escalate.

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Despite the clear dangers of unforeseen consequences, generating conflict between nations, and the immorality inherent in the idea of attempting to control parts of the biosphere, some scientists are [proposing strategies](#) like spraying aerosols of sulphate particles into the stratosphere and using tall ships to pump salt particles from the ocean into polar clouds to brighten them in order to attempt to refreeze warming parts of the polar regions.

Meanwhile, experts from 27 different national science academies released a [report](#) showing how climate disruption is already negatively impacting people’s health via heatwaves and floods, but also indirectly by things like the spreading of mosquito-borne diseases and deleterious mental health impacts.

“There are impacts occurring now [and], over the coming century, climate change has to be ranked as one of the most serious threats to health,” Andrew Haines, a co-chair of the report for the European Academies’ Science Advisory Council [told The Guardian](#).

Water

The endangered North Atlantic Right Whale’s already scant population is declining, and this decline has been linked directly to oceanic warming, which is of course, being caused by climate disruption, according to a [recent report](#). Warming oceans have caused the whales’ food supply to shift locations, causing them to have to travel farther to find it, along with moving them into areas closer to shipping lanes which are dangerous for them.

Meanwhile, dozens of grey whales have been found dead and washing up onto beaches up and down the west coast, from California to well up into Canada, causing U.S. scientists to [launch an investigation](#) into the unusually high mortality event. Scientists believe the number found dead is but a fraction of the actual number, since most of the dead whales will not wash ashore.

Hundreds of “severely emaciated” dead puffins have washed ashore at St. Paul Island in the Pribilofs of Alaska, believed to have starved to death from the warming waters.

“Many of the whales have been skinny and malnourished, and that suggests they may not have gotten enough to eat during their last feeding season in the Arctic,” National Oceanic and Atmospheric Administration (NOAA) spokesman Michael Milstein [told reporters](#) of the mortality event.

Also, hundreds of “severely emaciated” dead puffins have washed ashore at St. Paul Island in the Pribilofs of Alaska, believed to have starved to death from the warming waters they forage from having [less food available for them to eat](#). Estimates of the total number of dead puffins range from 3,000 to 9,000.

A stunning [study](#) published in the Proceedings of the National Academy of Sciences showed that warming oceans will likely reduce the oceanic content of fish and other marine life by one-sixth by the end of this century. The study warned that for every 1 degree Celsius (1°C) warming of the world’s oceans, the total mass of sea animals is projected to drop by five percent.

Meanwhile, the global water crisis spurred by climate disruption continues to unfold dramatically. A recent [report](#) warned that by 2030, half of the entire population of India (roughly 700 million people, or to put another way, one tenth of the entire population of the globe), may lack adequate drinking water. (This is, of course, in addition to all the other places in

which drinking water supplies will be inadequate.) The same [report](#) warned that the cities of Bangalore and New Delhi could run out of useable groundwater by as early as 2020.

India’s sixth biggest city, Chennai, is already dealing with massive water shortages as that city’s four reservoirs [recently ran dry](#). People are fighting while lining up for water. Many are unable to take showers, and hotels are warning people about water shortages. Most of that city’s population of 4 million are already relying solely on government tankers for their water.

Back in the U.S., southeastern Alaska, normally a rain-soaked temperate rainforest, is experiencing its [first ever recorded extreme drought](#). This is normally the wettest region of the state of Alaska.

Things aren’t any better underwater. [A stark report](#) has shown that the Southern Ocean of Earth could be less of a “carbon sink” than previously thought. In fact, it could well already be belching more CO2 into the atmosphere than it is absorbing.

The Welsh village of Fairbourne is on track to become the first village in Britain to be abandoned to sea level rise, as the entire population will have to be relocated.

Furthermore, climate disruption is altering the composition of the world’s plankton communities, according to [another study](#). “Large and globally consistent shifts have been detected in species phenology, range extension and community composition in marine ecosystems,” [reads the abstract](#) of the study. It is worth remembering that plankton provides a large percentage of the oxygen on the planet, with scientists estimating they provide between 50-85 percent of the oxygen to Earth’s atmosphere. There has been a [40 percent decline](#) in phytoplankton since just 1950.

Melting ice and thermal expansion of warming waters are the two leading contributors to sea level rise, and they are continuing apace.

The Welsh village of Fairbourne is on track to become the [first village in Britain to be abandoned](#) to sea level rise, as the entire population will have to be relocated. Like others that will be abandoned, the resettlement plan for the refugees remains unclear.

The residents of Fairbourne are far from alone. Thousands of communities along the coasts of the globe will have to be abandoned as seas continue to rise. In the U.S., communities in which at [least 21 percent of homes will be at risk](#) of chronic flooding by 2060 include Miami Beach and Key West in Florida, Hoboken and Atlantic City in New Jersey, Galveston, Texas, and Hilton Head Island, South Carolina.

Meanwhile, major climate disruption impacts have [devastated Midwestern farmers](#), who in many places weren't even able to plant their spring crops. And the question is not whether this kind of devastation will occur again, but when and how often. Croplands across that region were [literally drowned](#) by weeks of relentless rains over the spring.

This trend continued into May, as the U.S. officially had its second wettest May ever recorded, [according to NOAA](#).

The same has been true in Canada, where [once-in-a-century floods have happened two years in a row](#), deluging communities across Atlantic Canada and forcing residents to make a stark choice: rebuild or relocate.

Fire

The American West is [set to experience chronic summer wildfire smoke](#) from megafires, according to a recent report. Nevertheless, most of the region has done next to nothing to prepare for what is seen to be a massive and ongoing threat to human health from respiratory issues.

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This isn't relegated only to the west. Minnesota, as far away as it is from the source of the smoke, is also [already experiencing a dramatic increase](#) in smoke because of the wildfires besetting the Canadian Rockies and the Western U.S.

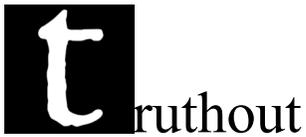
Underscoring both of these situations is an analysis generated by [Climate Central](#) that shows how the afflicted region's wildfire season is currently 105 days longer than it was in the 1970s, and is burning six times the area of acreage. The region also has three times more fires over 1,000 acres in size than it did in the 1970s.

Air

Temperatures in the Arctic Circle in Alaska were [22°C above normal](#) in some places in March. This is critical for multiple reasons, particularly due to the fact that in the Arctic, ice functions as part of the infrastructure across that region given how roads, homes, buildings, and other structures are built atop the permafrost, and subsistence hunting is a way of life for many Inuit people. If current trends continue, that way of life is, devastatingly, on the way out.

A heat wave in Japan during May [killed five people](#) and hospitalized another 600 people suffering from symptoms of heatstroke. Then in mid-June, a major heat wave in India [killed dozens of people](#) as temperatures reached 120°F across vast swaths of the country. In one area alone, 49 people died in just a 24-hour period. It's worth noting that 11 of the 15 warmest years on record in India have taken place after 2004.

In the U.S., a [heat wave in June](#) across the west saw temperatures reach 120°F, as record highs were seen across the region.



Denial and Reality

Meanwhile, the lengths the Trump administration is going to in order to placate its fossil-fueled backers continue to astound.

The Trump administration recently carried out one of its most overt attacks on climate science to date when it attempted to prevent an employee of the State Department from testifying about the climate crisis, according to [The New York Times](#). Intelligence analyst Rod Schoonover had submitted his testimony to the White House for approval before he appeared in front of the House Permanent Select Committee on Intelligence to share his remarks covering the security risks posed to the U.S. by the climate crisis. But as [The Washington Post reported](#), the Trump administration refused to approve his testimony for entry into the congressional record, stating that his analysis did not align with the views of the executive branch.

Additionally, Trump's Energy Department rebranded U.S. gas exports as "[molecules of freedom](#)."

Back in the world of reality, in May, a [record number of students](#) across the world walked out

of their classes amid a global strike to bring attention to the climate crisis.

This is a good thing, as recent data shows no signs of the climate crisis slowing down. In fact, it is only accelerating, as atmospheric CO2 content has increased by its [second highest annual rise](#) in the last 60 years. That makes this the seventh year in a row of steep increases of CO2 content in the already overburdened atmosphere.

NOAA also recently reported that this year is on track to become [the third warmest ever-recorded](#) in 140 years of temperature records.

The signs of collapse of industrial civilization are all around us. We must pay attention, and prepare ourselves for living in the world that the disrupted climate has brought upon us.

For myself and my community, this means connecting more deeply to the Earth, to build psychological, social, spiritual and physical resiliency, in addition to taking as good care as we are able of the land that is caring for us. In this way, we are working to model on a micro scale what might be done on the macro, even in the midst of this era of great loss.