**Climate Change**

**Climate change already costing lives: Climate change is already taking an "unequivocal and potentially irreversible toll" on the world's population, causing more severe heat waves, droughts, flooding, wildfires, disease outbreaks, and food shortages, a new international study warns. A multidisciplinary team of 63 researchers -- including economists, ecologists, and mathematicians -- found that temperature increases since the 1980s have contributed to a 46 percent rise in the frequency of extreme weather. Heat waves and droughts have reduced crop yields and contributed to unstable food supplies, as well as a 5.3 percent loss in labor productivity. Rising sea levels have forced thousands of coastal residents to migrate inland. Warmer temperatures have extended allergy season and expanded the range of ticks and mosquitoes, resulting in significantly more outbreaks of dengue fever, Lyme disease, and other vector-borne illnesses. Since 1990, fine-particle air pollution has increased by 11 percent. The report concludes that the world's failure to significantly reduce emissions over the past 25 years has put hundreds of millions of lives at risk. It also urges governments to ramp up their response to climate change. "The impacts we're experiencing today are already pretty bad," lead author Nick Watts, from University College London, tells The Guardian (U.K.) "The things we're talking about in the future are potentially catastrophic." *(The Week magazine, November 17, 2017)***

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**The Amazon hits a carbon tipping point: Parts of the Amazon rain forest are now emitting more carbon dioxide than they absorb, according to a new study. That’s a deeply worrying discovery, because for generations the Amazon has acted as a colossal carbon sink, soaking up some of the emissions that are powering climate change and storing them in its trees and soil. But the study found that the rain forest now pumps out more than 1.1 billion tons of carbon a year -- about the same as Japan, the world’s fifth-biggest polluter. Most of the emissions come from forest fires, often set deliberately to clear land for beef and soy production, reports The Guardian (U.K.). Fewer trees in turn means less rain and higher temperatures, which makes the dry season worse and increases the risk of fires. “We have a very negative loop” says study author Luciana Gatti, from the National Institute for Space Research in Brazil. Previous carbon studies on the Amazon were based on satellite data, which can be hampered by cloud cover. Gatti and her colleagues overcame this by flying small planes low over the forest canopy and taking CO2 and carbon monoxide measurements. The research was exhaustive, involving some 600 flights between 2010 and 2018. The data showed that fires in the Amazon produced about 1.7 billion tons of CO2 a year – triple the amount removed by forest growth. “We need a global agreement to save the Amazon,” says Gatti. *(The Week magazine, August 6, 2021)***

**If a country obtains chemical or biological weapons, the rest of the world tends to react with fury. Sanctions rain down on the proliferators, who are then ostracized from the global community. The destruction of the Amazon is arguably far more dangerous than weapons of mass destruction. The consequences of the unfolding disaster – which will extinguish species and hasten a worst-case climate crisis – extend for eternity. It is commonplace to describe the Amazon as the “world’s lungs.” Embedded in the metaphor is the sense that inherited ideas about the sovereignty of states no longer hold in the face of climate change.” *(Franklin Foer, in Atlantic.com)***

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**Arctic warming's $70 trillion bill: The release of greenhouse gases from thawing permafrost in the Arctic will accelerate global warming and add up to $70 trillion to the cost of climate change. That's the conclusion of the most comprehensive study yet into the ramifications of permafrost melt in the world's high north, reports NationalGeographic.com. As the region's icy ground thaws, soil microbes start to digest the gigatons of organic carbon -- the remains of plants and animals -- that have been buried in the permafrost for thousands of years. Those microbes exhale climate-warming carbon dioxide and methane. To calculate the impact of those emissions, researchers measured how much frozen organic matter was in the ground at multiple points across the permafrost zone -- which covers a quarter of the land in the northern hemisphere -- then ran the data through climate simulation software. They found that, even if the world meets the Paris Agreement climate targets, the released gases and the retreat of sunlight-reflecting ice will hike climate change's price tag -- the cost of rising seas, longer droughts, and so on -- by up to 5 percent, or $70 trillion. That's 10 times higher than the projected benefits of a melting Arctic, such as shorter shipping routes. The study's key takeaway, said co-author Kevin Schaefer of the National Snow and Ice Data Center in Boulder, "is the greater the warming, the stronger the feedbacks and the higher the costs to society." *(The Week magazine, May 10, 2019)***

**Climate change vs. beer: As if extreme floods, crippling droughts, and possibly even the end of mankind weren’t bad enough, scientists are now warning of another catastrophic effect of climate change: a global beer shortage. Researchers examined how rising temperatures would affect the production of barley, a key ingredient in brewing. They found that depending on how much carbon emissions are reduced, global yields of the crop will fall by 3 to 17 percent by 2100. Now every country will see declines. Yields in the U.S. could actually increase, but not enough to offset the global decrease. In the worst-case climate scenario, the researchers concluded, the price of a pint will double and beer consumption worldwide will decline by 16 percent. In the best case, consumption will drop by only 4 percent, and prices will rise by 15 percent. “Consuming less beer isn’t itself disastrous and may even have health benefits,” co-author Dabo Guan, from the U.K.’s University of East Anglia, tells NPR.org. But “for millions of people around the world, the climate impacts on beer availability and price will add insult to injury.” *(The Week magaainze, November 2, 2018)***

**A bipartiasn solution to climate change: The U.S. is headed for a prolonged, bitterly partisan battle over climate change -- but there's a way out, said Chris Mooney. It's a revenue-neutral carbon tax that would return 100 percent of the billions it raises to taxpayers. Most conservatives reject taking any action to halt climate change, and even deny that human activity is causing it, because they see the issue as just another liberal assault on personal liberty -- an excuse to regulate and tax businesses and individuals for using fossil fuels. That's why mandated emissions standards, regulated by the federal government, will never pass Congress while Republicans hold a majority in either chamber. One solution to controlling emissions, however, would be far more palatable: Tax carbon so that emissions decline, but rather than use the revenue to fund government programs, give it back to Americans. That could be achieved by reducing personal and corporate tax rates, or by giving all citizens a "carbon tax dividend" every year. By putting more money in Americans' hands, this plan would actually stimulate spending and job growth. Republicans aren't yet ready to embrace a revenue-neutral carbon tax, but as the world keeps getting warmer, it could be a face-saving way out. *(The Week magazine, February 13, 2015)***

**LOOKING FOR A GOOD HOME: In the early 1900s, UC Berkeley's Joseph Grinnell surveyed bird territories in California's Sierra Nevada. Biologists have now found that out of 53 bird species, 48 (a Western tanager) have moved. Why? Climate change, they say. Many of the birds' new ranges are farther north or higher in altitude, with temperatures or rainfall akin to where they lived before. *(Amanda Bensen, in Smithsonian magazine)***

**Climate change costs: The U.S. energy supply is ill prepared for the effects of climate change, according to a sobering new report by the Energy Department. The country's energy infrastructure is already struggling in the face of winds and flooding from intense storms like Hurricane Sandy, as well as drought, wildfires, and excessive heat. Last year was the warmest in the U.S. since consistent record-keeping began, in 1895. The high temperatures forced the shutdown of a nuclear power reactor in Connecticut after its cooling water, pulled from Long Island Sound, became too hot. In the Midwest, low river levels halted barges transporting oil and coal. Lower water levels also reduced the power supplied by California's hydroelectric dams and may restrict fracking, which requires massive quantities of water to extract oil and natural gas. Climate change "is a very serious problem and it will get worse," report author Jonathan Pershing tells USA Today. "No part of the country is immune." Pershing urges electricity providers to start recycling water, building backup systems, and investing in solar and wind energy. "It will cost us tens of billions of dollars to fix the problems," he says. "But if we don't it will cost us hundreds of billions in damage." *(The Week magazine, August 2, 2013)***

**Deadly heat sweeps planet: If carbon emissions remain unchecked, a new study suggests, deadly heat waves will grow steadily worse, threatening up to 75 percent of the world's population by century's end. A team of researchers analyzed heat waves dating back to 1980, pinpointing 783 events that resulted in "excess human mortality," including the 1995 Chicago heat wave that killed 740 people and a similar occurrence in Moscow in 2010 that claimed 10,860 lives. They found that climate change is exacerbating extreme heat, spreading it like a global forest fire, NationalGeographic.com reports. Even with aggressive measures to curb greenhouse gas emissions, the researchers warn, by 2100 roughly 50 percent of people on Earth will have at least 20 days a year of deadly heat. "Our attitude toward the environment has been so reckless that we are running out of good choices for the future," says study lead author Camilo Mora. "For heat waves, our options are now between bad or terrible. Many people around the world are already paying the climate price." *(The Week magazine, July 7/July 14, 2017)***

**Bad week for: America, home to the highest proportion of climate-change deniers -- 15 percent -- of any developed nation, according to a new YouGov survey. In the runner-up spot is oil-rich Saudi Arabia. *(The Week magazine, September 27, 2019)***

**The economic costs of climate change are already hitting the U.S. real estate market. The threat of flooding to coastal properties from rising sea levels has caused housing values in New York, New Jersey, Connecticut, and five Southeastern states to drop by $14.1 billion since 2005, according to a report by the First Street Foundation.(Axios.com, as it appeared in The Week magazine, September 7, 2018)**

**The extinction of parasites: Climate change could wipe out up to one-third of the Earth's 3.5 million known parasite species over the next 53 years. That might sound like a good thing, but scientists warn that the extinction of pests such as tapeworms, fleas, and ticks could dramatically alter the delicate balance of ecosystems around the world, The New York Times reports. An international team of scientists mapped the global distribution and habitats of 457 different species of parasites and analyzed how climate change could affect them. Up to 30 percent of parasite species, they concluded, may be extinct by 2070. A mass of die-off could produce many undesirable consequences: Where parasites help control their hosts' populations, those populations could grow out of control, the way deer did when wolves left their habitats. Other parasites might flourish in the absence of competition. Still others could migrate to new ecosystems, invading new species. As an example: the mosquitoes that carry the Zika virus spreading north into the U.S. Colin Carlson, lead author of the study, said parasites, are "a huge and important part of ecosystems," and warned that extinctions will have consequences we can't foresee. *(The Week magazine, September 29, 2017)***

**Flesh-eating bacteria spreading: Climate change is helping spread unpleasant diseases to unexpected places, new research suggests. Over the past two years, five people in New Jersey have been hospitalized after contracting Vibrio vulnificus, a dangerous flesh-eating bacteria. One of the patients died; all five had either eaten or handled crabs or other seafood from the nearby Delaware Bay. Spread through contaminated shellfish, the bacteria is relatively common off the coasts of Virginia and Maryland and in the Gulf of Mexico. But until recently it had rarely been seen further north; before 2017, New Jersey had only one serious Vibrio vulnificus case in eight years. New research suggests that warmer sea temperatures are now allowing the bacteria to thrive in northern waters that were previously too cold for them, reports CNN.com. "It is important for physicians -- who may have never seen this infection before in their medical practice -- to have some awareness," says co-author Katherine Doktor, from Cooper University in New Jersey. People in at-risk areas are advised to avoid swimming in bay or seawater if they have open wounds, and to thoroughly cook any shellfish before eating it. *(The Week magazine, July 5 / July 12, 2019)***

**Why flights are dumpier: If you think airplane flights have gotten bumpier in recent years, you’re not imagining it, reports BBC.co.uk. Climate change is making turbulence worse. Researchers at Reading University in the U.K. looked at climate data from 1979 to 2020. They found that severe clear-air turbulence – which, unlike disruption from storms, is hard for pilots to detect – had increased by 55 percent over that period, while moderate turbulence was up 37 percent. The reason is that warmer air creates stronger wind shear – differences in wind speed – in the jet stream, a system of air currents a few miles above Earth’s surface. That in turn causes greater turbulence. The biggest increases were on routes in the U.S. and the North Atlantic, followed by those in Europe, the Middle East, and the South Atlantic. “Following a decade of research showing that climate change will increase clear-air turbulence in the future,” says study co-author Paul Williams, we now have evidence suggesting that the increase has already begun.” He adds that people should always keep their seat belts on unless they’re moving around. *(The Week magazine, June 30, 2023)***

**Greenhouse gases hit record high: Has earth's biosphere reached the saturation point for carbon dioxide? New data from the World Meteorological Organization (WMO) show greenhouse gases in the atmosphere increased at a record pace in 2013, a trend that points to "potentially devastating" climate change in the decades ahead. As cars, power plants, and factories continue to emit more and more CO2, the WMO says, the capacity of oceans and forests to absorb the gas is diminishing. Usually, about half of the CO2 emissions winds up in trees and the seas. But last year, CO2 levels shot up to nearly 400 parts per million -- the highest in the history of human civilization. Scientists are especially concerned because the last time the biosphere struggled to absorb CO2, in 1998, it was blamed on the El Nino weather system. That year, global temperatures set records. "In 2013, there are no obvious impacts on the biosphere," the WMO's Oksana Tarasova tells BBC.com. "We don't understand if this is temporary or if it is a permanent state. It could be that the biosphere is at its limit." *(The Week magazine, September 26, 2014)***

**Fierce heat waves driven by climate change have cost the global economy an estimated $16 trillion over the past three decades, says a new study published in Science Advances. That estimate, based on analysis of economic data and heat waves, include the costs of lost productivity, lower agricultural yield, and impact on human health. *(The Hill, as it appeared in The Week magazine, November 11, 2022)***

**The hottest year on record: "So, it's official," said Phil Plait in Slate.com: "2014 was the hottest year on record." Scientists from NASA and the National Oceanic and Atmospheric Administration said last week that while the eastern U.S. was cooler than usual last year, average global temperatures were the highest since record keeping began back in 1880. This was particularly surprising in a year that didn't feature El Nino, the sporadic warming phenomenon that tends to drive temperatures up. "So much for 'the pause'" in global warming. "Deniers gonna deny," but the reality is that of the 10 warmest years on record, nine have taken place since 2000. It's now clear to any rational person that our continued reliance on fossil fuels is causing dangerous and irreparable damage to our planet. That's not clear at all, said Robert Tracinski in TheFederalist.com. Where climate scientists say 2014 was the hottest on record, they're talking about just 135 years of data -- not the 6,000 years of human civilization. During that time, there were periods much warmer than today, with wine grapes growing in northern England and Newfoundland. On a geological time scale, the Earth has gone through "a series of freezing and warming cycles on a scale of tens of thousands to hundreds of thousands of years." And just how large was the climb in 2014's temperatures? A mere 0.02 Centigrade. The climate scientists" margin for error was five times as much, and 0.1 C. If only the environmental evangelists could admit what their data actually show: Global temperatures have essentially been on a plateau since 1998. Don't fall for the climate denialists' favorite trick, said Kevin Drum in MotherJones.com. They always use 1998 as their base year because it was "an outlier, an unusually warm year." But anyone can "fool the rubes with misleading charts." The full chart, from 1880 to 2014, shows an unmistakable trend line of rising temperatures. But with republicans controlling Congress, don't expect any major policy changes out of Washington, said Stephen Stromberg in WashingtonPost.com. A recent Pew Research Center poll found that only 15 percent of Republican voters want government to make a climate change a top priority; even among all Americans, climate change comes in 22nd among issues of pressing concern. it may take even a greater evidence of warming -- and a younger generation of leaders -- before the U.S. "takes global warming seriously." *(The Week magazine, January 30, 2015)***

**Good week for: Real news, after conservative radio host Rush Limbaugh told his listeners that dire forecasts of Hurricane Irma's impact were a liberal media plot to create "fear and panic" and "advance this climate change agenda." He had to cancel his Friday show and flee Florida. *(The Week magazine, September 22, 2017)***

**Ocean currents slowing climate change: Global warming has been slowing down, and a new study may have found the cause, reports National Geographic.com. Over the past 60 years, average global surface temperatures had been rising at a rate of approximately 0.12 degrees Celsius every decade. Beginning in 1998, that rate slowed to an average of .05 degrees per decade, prompting many skeptics to claim that warnings about catastrophic climate change have been hyped. But researchers at the University of Washington who used dozens of underwater sensors have concluded that the "pause" in global warming is illusory, and that the additional heat is being stored in the Atlantic Ocean -- but only temporarily. Roughly 90 percent of earth's heat is absorbed by the oceans; since the late 1990s, the study found, cyclical changes in the tropical current, combined with unusually strong trade winds, have acted as a conveyor belt and carried surface warmth more than 1,000 feet deep into the Atlantic. The process, researchers say, will last until around 2030, when the 30-year current cycle ends and atmospheric temperatures will resume climbing very rapidly. "The frightening part," says study co-author Ka-Kit Tung, is that "it's going to warm just as fast as the last three decades of the 20th century, which was the fastest warming we've seen." Even though global warming has slowed, 13 of the 14 warmest years on record have occurred since 2000, according to U.N. estimates. *(The Week magazine, September 12, 2014)***

**Syria announced this week it would sign the Paris climate accord. With Nicaragua signing the accord last month, the United States is now the only nation to have rejected the global agreement. *(The New York Times, as it appeared in The Week magazine, November 17, 2017)***

**Poll watch: 50 percent of Americans now see themselves as "concerned believers" in global warming -- a major increase from 2015, when just 27 percent were believers. 31 percent are now in the "mixed middle" group, who believe climate change is real but think the threat is exaggerated. 19 percent classify as "cool skeptics," who doubt the findings. *(Gallup, as it appeared in The Week magazine, April 7, 2017)***

**The production of beef is responsible for roughly 6 percent of greenhouse gas emissions, making it the single biggest food contributor to climate change. Global beef demand is projected to nearly double by 2050, driven by population growth in China and India. *(Axios.com, as it appeared in The Week magazine, June 29, 2018)***

**Carbon dioxide emissions reached a record high of 36.8 gigatons last year. The rebound of air travel and driving from a pandemic lull and a growth in coal-fueled power plants helped drive a 1 percent increase over 2021, but a boom in renewable energy and electric vehicles largely offset the greater use of fossil fuels. *(CNBC.com, as it appeared in The Week magazine, March 17, 2023)***

**Reason for hope on the climate: As one of the authors of a new National Climate Assessment, said scientist Kate Marvel, I felt a strange new emotion in writing the latest report: “optimism.” To be clear, “there are plenty of new reasons for despair,” with strong evidence linking climate change to “specific extreme weather disasters,” which are growing in frequency. But in recent years, “there has been genuine progress,” especially in the transition to green energy. Over the past decade, “the cost of wind energy has declined by 70 percent and solar has declined 90 percent. Renewables now make up 80 percent of new electricity-generation capacity.” As a result, U.S. greenhouse gas emissions are falling, “even as our GDP and population grow.” Scientists have warned of what would happen if global temperatures rose 2 degrees Celsius: “more heat waves, more uncomfortably hot nights, more downpours, more droughts.” But thanks to previous warnings and the work of thousands of scientists, engineers, and policymakers, it’s possible that emissions will fall “dramatically” in the near future. Preventing the worst-case scenarios will still require “large-scale changes” in how we generate energy. But that transition is underway, and climate science’s new message is: “We can do this.” (The Week magazine, December 1, 2023)**

**Climate change is already redrawing climate zones, expanding the tropics and the Sahara Desert, shifting the boundary of the arid Western U.S. plains 140 miles eastward, and moving Tornado Alley 500 miles east, according to a new Yale study. (Axios.com, as it appeared in The Week magazine, November 9, 2018)**

**A scientist with a history of disputing that human activity is driving climate change has been appointed to a top post at the National Oceanic and Atmospheric Administration, which oversees federally funded climate research. New NOAA official David Legates is affiliated with the conservative Heartland Institute and has had research funded by Exxon Mobil and Koch Industries. *(NPR.org, as it appeared in The Week magazine, September 25, 2020)***

**For centuries, sequoias were largely invulnerable to fire. The world’s most massive trees, sequoias have insulating bark up to 3 feet thick and canopies 200 to 300 feet above the forest floor, so that flames from wildfires could only lick at their trunks. Perfectly adapted to their environment, these majestic trees thrived in their own Eden in the Sierra Nevada, with some reaching the age of more than 2,000 years. Then mankind intervened. Climate change caused by the burning of fossil fuels brought in hotter weather, prolonged droughts, and more intensive wildfires. In 2020, the huge Castle Fire incinerated an estimated 10,000 mature sequoias – wiping out up to 14 percent of the tree’s population. This year, as more fires raged, parks officials resorted to wrapping some sequoia trunks in protective foil. People are making bucket-list pilgrimages to the groves as sequoias join a list of endangered natural wonders: the Great Barrier Reef, glaciers from Montana to the Himalayas, the Amazon rain forest, and so on and on. *(William Falk, in The Week magazine, November 12, 2021)***

**If the global shipping industry were a country, it would be the world’s sixth-biggest emitter of greenhouse gases. Cargo ships now emit more CO2 each year than the entire nation of Germany. *(Oz.com, as it appeared in The Week magazine, April 27, 2018)***

**A climate skeptic's secret payoff: "If you doubt man-made climate change," said Terrence McCoy, "Wei-Hock Soon isn't just your man. He's your high priest." Soon is not a climate scientist, but as a physicist who works for the Harvard-Smithsonian Center for Astrophysics, he has forged a career out of asserting that global warming isn't caused by humans, but largely by variations in the sun's energy. Climate-change skeptics love Soon and cite his work frequently. But it turns out that Soon is not what he seemed. This week, documents obtained through the Freedom of Information Act revealed Soon's climate research was funded by at least $1.2 million from Exxon Mobil, Southern Company, the American Petroleum Institute, and the Charles G. Koch Charitable Foundation -- groups with a strong financial stake in denying global warming. Soon has never disclosed the conflict of interest underlying his research, which his funders described in documents as "deliverables." But don't expect conservatives to abandon their tarnished hero. Climate change is now a debate between "warring tribes" over culture and ideology -- not the science, "which we decided years ago." *(The Week magazine, March 6, 2015)***

**Slim hopes for Paris climate target: Earth will almost certainly warm by more than 2 degrees Celsius (3.6 degrees Fahrenheit) above preindustrial levels by the end of the century, the threshold set out in the 2015 Paris Agreement. That's the sobering conclusion of a new study by scientists at the University of Washington who analyzed population trends, economic growth, and the amount of carbon dioxide emitted for each dollar of economic activity. The researchers estimate there is only a 5 percent chance temperatures won't rise above 2 degrees Celsius by 2100, and just a 1 percent chance the world will stick to the Paris accord's more aspirational target of 1.5 degrees. The most likely scenario based on current emission levels and targets, the team concludes, is that temperatures will increase between 2 and 4.9 degrees Celsius by 2100, with a median estimate of 3.2 degrees (5.8 degrees Fahrenheit). An increase that large would lead to a catastrophic rise in sea levels, severe heat waves, droughts, and other kinds of extreme weather, and millions being displaced. "The most optimistic projections are unlikely to happen," lead author Adrian Raftery tells The Guardian (U.K.). "If we want to avoid (a rise of) 2 degrees, we have very little time left." Raftery says the findings should serve as a call to action to global leaders, noting that "breakthrough technology" or a rise in the use of renewable energy could dramatically alter levels of warming. *(The Week magazine, August 18 / August 25, 2017)***

**Climate change stalls jet stream: Climate scientists have long understood that global warming can make extreme weather events, like the Texas heat wave of 2011 and last year's floods across Europe more common. But new research suggests this rise in extreme weather isn't simply due to increasing atmospheric temperatures: Climate change might also be altering the flow of planet-scale air patterns, like the jet stream. Normally, the jet stream moves from west to east across the Northern Hemisphere, with ribbon-like air currents that undulate from the equator to the North Pole. A large temperature difference between the tropics and the Arctic causes the winds to blow faster. But when the difference is smaller, the jet stream slows and whole regions can be left under the same weather for long periods, turning hot days into heat waves, dry spells into droughts, and wet conditions into floods. Using temperature records and climate model simulations, an international team of researchers found that such stalls are increasing in frequency, largely because climate change is causing the Arctic to warm faster than the rest of the planet. "Human activity has been suspected of contributing to this pattern before," study leader Michael Mann tells The Guardian (U.K.). "But now we've uncovered a clear fingerprint." *(The Week magazine, April 14, 2017)***

**The world’s first underwater vegetable garden reopened after an extended closure had threatened the project’s future. Nemo’s Garden, a series of domed underwater greenhouses off the coast of Italy, was launched in 2012 by the Ocean Reef Group, to model “a sustainable way of agriculture” for societies threatened by climate change. But the biospheres were severely damaged by a 2019 storm, and Covid-19 forced researchers to leave the site. The team relaunched last month – complete with a livestream on which viewers can watch lettuce, strawberries, and herbs grow. (The Week magazine, July 30, 2021)**

**The whitest white paint: Scientists at Purdue University have developed a super-white paint that could help cut our reliance on air-conditioning and fight climate change, reports ABCNews.com. Regular commercial white paint reflects about 80 to 90 percent of sunlight. It can keep buildings cooler than if they were painted black but can't make walls cooler than the ambient temperature. The new paint is made from barium sulfate, a low-cost compound used to whiten photo paper and cosmetics, and reflects up to 98.1 percent of sunlight and does not absorb ultraviolet light. Outdoor tests found that this ultra-white paint kept surfaces 19 degrees Fahrenheit cooler than nearby surfaces at night, and 8 degrees cooler in peak sunlight. The Purdue team estimates that if 1,000 square feet of roof were covered with the paint, it would produce a cooling power of 10 kilowatts -- more than the central air-conditioning units used in most houses. Reassuringly, the paint isn't so bright it'll hurt people's eyes. "It just looks bright white," says lead researcher Xiulin Raun. "A bit whiter than snow." *(The Week magazine, May 21, 2021)***

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**Wildfires were once rare in the grasslands of the Great Plains, but their numbers more than tripled between 1985 and 2014 -- from about 33 a year to 117. Experts have attributed the rise to both climate change and an incursion of invasive plant species that have provided additional fuel. *(The Washington Post, as it appeared in The Week magazine, June 30, 2017)***

**Wildfires in the U.S. are getting larger. Although the number of fires every year has stayed relatively consistent since 1985, the total acreage burned has increased dramatically. Wildfires have burned 3,362,431 acres of land in the U.S. so far in 2018. That's 4 percent more acreage burned than average by this time of the year, and fire management officials say one factor is hotter, drier conditions caused by climate change. *(FiveThirtyEight.com, as it appeared in The Week magazine, August 3, 2018)***

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**The world’s richest 1 percent of people are responsible for the same amount of carbon emissions as the 5 billion people in the poorest 66 percent, according to a new Oxfam report. A third of the carbon emissions emitted by the top 1 percent were generated in the U.S. *(CNBC.com, as it appeared in The Week magazine, December 8, 2023)***

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