



Global warming is making you sick

Climate change isn't merely melting ice caps and endangering polar bears. It's a major health threat to all of us. Right now. **By Tula Karras**

Fatal floods. Deadly disease. Global warming is already terrifying. Yet most people (SELF readers included) fear more for their future great-grandkids than for their own health. Only 17 percent of you believe climate change is affecting us today. But the bone-chilling truth is that global warming isn't simply *threatening* to hurt your body—it already is. Not convinced? The following list of nine health dangers is guaranteed to change your mind.

Asthma on the attack During the past 25 years, asthma rates in the United States have soared: More than 22 million people suffered from the condition in 2005, according to the Centers for Disease Control and Prevention in Atlanta. One possible reason: As the planet's surface temperature rises, so do levels of smog—a toxic stew of air pollutants, especially ground-level ozone—which not only can trigger asthma attacks in people who already have the condition but may spur the disease's onset as well, says Gina Solomon, M.D., a senior scientist at the Natural Resources Defense Council in San Francisco.

Protect yourself. On days with poor air-quality (particularly hot ones), stay indoors, especially for your workout, says Ira Tager, M.D., professor of epidemiology at the University of California at Berkeley. "When you exercise, you take in more air deeper into the lungs," he explains. And nobody needs more ozone.

Raging rashes You learned in third grade that plants need carbon dioxide (CO₂) to grow. But they don't need as much of the greenhouse gas as they're getting now or will continue to get in the future. In fact, new research published in *The Proceedings of the National Academy of Sciences* shows that high levels of CO₂ can fuel a super strain of poison ivy. Researchers at Duke University in Durham, North Carolina, compared poison ivy plants grown in a CO₂ atmosphere similar to the earth's right now with those exposed to the even higher CO₂ levels expected mid-century. They found that the urushiol oil, which makes you itch, was about 30 percent more toxic in the CO₂-rich plants. What's more, they grew 149 percent faster, says Jacqueline Mohan, Ph.D., lead author of the study. Elsewhere, researchers have found poison ivy is already more poisonous than it was a few decades ago. Mohan speculates that similar changes are likely occurring with poison oak and sumac as well.

Protect yourself. "Leaves of three, let it be," is a good rule, even in urban areas where the plant sprouts in sidewalk cracks and untamed gardens. In more lush environments, poison ivy may even look like a thick, woody vine. If you do have a brush with the plant, act fast. "Douse the area liberally with water, ideally within five minutes of being exposed," says Stephen Webster, M.D., a dermatologist in La Crosse, Wisconsin, and a spokesman for the American Academy of >>>

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>> Dermatology. Then wash your skin with laundry detergent for five minutes; its high pH balance helps dissolve the oil. If you still develop a blistering, itchy rash, calamine lotion, over-the-counter antihistamines and oatmeal baths can be soothing. “If the rash is widespread, on your face, or you have a lot of swelling, call your dermatologist. You may need a short course of steroids,” Dr. Webster says.

Cancer concentration We’ve made strides to reduce chemicals like chlorofluorocarbons that destroy the ozone shield in the upper atmosphere that blocks much of the sun’s cancer-causing radiation. But the warmer the inner atmosphere becomes, the tougher it becomes for the ozone hole to repair itself. The result? More UV rays hitting the earth, more sunburn and more skin cancer. In fact, skin cancer is the most common cancer in the country—more than a million cases are diagnosed annually.

Protect yourself. No surprise with this one: Use a full-spectrum sunscreen, with an SPF of 30 or higher, and reapply it every few hours or every time you sweat profusely or get wet. And, of course, stay in the shade as much as possible.

Infections that bite Many disease-carrying bugs, particularly the ticks that spread Lyme disease, thrive in warm winters. And thanks to global warming, scientists are already seeing more infections, says Paul Epstein, M.D., associate director of the Center for Health and the Global Environment at Harvard Medical School in Boston. In fact, the number of people diagnosed with Lyme, which initially causes flulike symptoms (and only sometimes a bulls-eye rash), nearly doubled between 1994 and 2003. Left untreated, it can affect the nervous system, heart and joints. “Ticks are more active in warmer weather, so they’re out looking for hosts earlier each summer and later into the fall,” says Joseph J. Burrascano, M.D., vice president of the International Lyme and Associated Diseases Society in Bethesda, Maryland.

The insect problems don’t end there. The mosquitoes that carry West Nile virus and dengue fever also thrive during periods of heat and drought. So far, doctors have diagnosed more than 4,000 people in the United States with West Nile, and 174 of them have died. (The virus attacks the nervous system and can lead to meningitis.) Dengue fever, which causes severe flulike symptoms and pain, has been popping

up in Texas every year since the 1980s. “As temperatures warm, the diseases like dengue that are nipping at the border will travel north,” Dr. Solomon says.

Protect yourself. If you’ll be in a buggy area, spray your skin with a repellent that contains deet, which protects against mosquitoes and ticks. You also can treat your clothes with a fabric-safe formula that contains deet or permethrin. Don’t let stagnant water (ground zero for mosquito breeding) accumulate near your home, and avoid going out at dawn and dusk, when the bugs like to bite. After a day outdoors, do a full-body scan for ticks; the sooner you remove them, the less likely they will have transmitted bacteria that can make you sick.

Allergies that floor you The millions of Americans who sneeze and sniffle through pollen season are spending more time in misery because the warm season lasts longer.

Levels of ragweed pollen—the most common weed allergen—are also rising right along with the CO₂. The plants are getting bigger and producing more, says Lewis Ziska, Ph.D., a plant physiologist at the Crop Systems and Global Change Laboratory in Beltsville, Maryland. People with mold allergies aren’t faring much better. CO₂ also spurs the production of fungi spores. “Plus, mold thrives in warm, wet environments, like the kind we see after floods and even heavy rains,” Dr. Solomon says. And because mold grows inside the walls of homes that have gotten wet and outdoors in places such as wet leaf litter, it’s a ubiquitous—and year-round—problem.

Protect yourself. To ease pollen allergies, exercise indoors on high-pollen days (check your local count at www.aaaai.org/nab), and wash your hair each night so you don’t bring the plant dust to bed with you, says Clifford Bassett, M.D., an allergist at Long Island College Hospital in Brooklyn, New York. If mold is your problem, definitely think about investing in a dehumidifier to help dry the air, especially if you live in a damp climate or home. Ideally, the humidity level in your home should be below 50 percent, says Linda Ford, M.D., a spokesperson in Omaha, Nebraska, for the American Academy of Allergy, Asthma and Immunology. (Hardware stores sell humidity gauges for as little as \$10.) “If despite these efforts your allergies are persistent, worsen or are severe enough to interrupt sleep and activity, see an allergist, who can tailor strategies specific to you,” Dr. Bassett says.

Want to stop global warming?

You’ve swapped your lightbulbs for compact fluorescents. Your new car is even a hybrid. We’ve got a few extra ways for you to reduce how much CO₂ you personally add to the environment.

1 Switch your home’s energy resource. Call your electricity provider and ask for a plan that uses renewable energy such as wind power. Most major companies offer an upgrade option, often for as little as an additional \$10 a month. While you’re at it, ask if you can set up an energy audit of your home. You’ll learn how much you’re consuming and how you can cut back.

2 Support the Global Warming Pollution Reduction Act of 2007. This bill mandates that the United States reduce greenhouse emissions 80 percent by 2050. Visit www.nrdonline.org/campaign/nrdcaction_012207 to send a letter to your representatives. You can also join the Stop Global Warming Virtual March (StopGlobalWarming.org) to make your voice heard.

3 Make smarter donations. There’s no shortage of online organizations offering carbon offsets—the opportunity to donate money to green causes to counter your personal carbon contributions (like when you travel by plane). Three we think are worth considering: [Bonneville Environmental Foundation \(B-E-F.org\)](http://BonnevilleEnvironmentalFoundation.org), CarbonFund.org and NativeEnergy.com.

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A time bomb ticker Air pollution, some of which is worsening due to greenhouse gases, can be dangerous for people with even mild heart disease. “Breathing in polluted air is like the opposite of taking an aspirin,” Dr. Solomon says. “Some of the contaminants increase your risk of developing blood clots.” Plus, many of the noxious chemicals increase heart rate and blood pressure. The effect is so clear that the American Heart Association (AHA) in Dallas considers air pollution to be an emerging risk factor for heart disease, which kills 500,000 women annually.

Add a heat wave to the equation and the potentially dangerous effects are compounded, says Dr. Epstein, coauthor of Harvard’s comprehensive report “Climate Change Futures.” That’s because high temperatures speed the process that creates smog. So the longer a heat wave lasts, the more persistent the smog becomes. And that’s especially worrisome for people who live in urban areas where, along with pollutant-spewing cars and trucks, there’s also a heat island effect: The tar rooftops and pavement trap heat, making inner cities about 7 degrees hotter than suburban areas. “Large cities like Boston have reported increases in the incidence of deaths and hospitalizations during and just after poor air-quality days,” says Barry Franklin, Ph.D., a cardiac rehabilitation specialist in Royal Oak, Michigan, and a spokesman for the AHA.

Protect yourself. Just as those with asthma should consider staying indoors on poor air-quality days, so should anyone with a heart condition. (Log on to EPA.gov/airnow to check local conditions.) And try to stay cool. If you have air-conditioning, keep the thermostat low enough to bring relief.

Super stomach bugs Whenever we’re hit with heavy rains and floods, you can expect a bloom of water-borne bacteria and parasites that can threaten the public water supply. The biggest culprit is storm-water runoff, which can spread E. coli and cryptosporidium, bugs that can cause severe diarrhea and even death in those with weakened immunity. A 1993 outbreak of cryptosporidium in Milwaukee sickened nearly a half million. Other types of bacteria, such as vibrio, can find their way into the body through wounds in the skin if a person is wading through dirty floodwaters. “After Hurricane Katrina, we saw a vibrio outbreak, which causes a rapidly spreading skin infection if they settle into an open cut,” Dr. Solomon says. If not treated early, the infection can lead to amputation or even death.

Protect yourself. Don’t ever wade in rainwater if you can avoid it. If you notice a skin condition following contact with floodwaters, see a doctor right away. Use bottled water and filter your tap (studies show they contain an

equal number of contaminants) with a pitcher-based filter or one that attaches to your faucet or under your sink, Dr. Solomon suggests. After floods, boil drinking water for one to two minutes to kill any microorganisms that may have found their way into the supply.

Heatstroke hell Heatstroke—a life-threatening condition in which body temperature rises above 104 degrees—is a very real danger during heat waves, which are becoming more intense, prolonged and hazardous with global warming. One reason is that climate change is interfering with nighttime cooling; the effect is so profound that average night temperatures are rising twice as fast as daytime ones, Dr. Epstein says. In July and August 2005, 200 U.S. cities broke heat wave records. The European heat wave of 2003 was the hottest since 1851 and killed as many as 35,000.

Protect yourself. When the temperature rises, pay attention to your thirst and urine output; if your urine turns the color of apple juice, you're likely dehydrated and need to push the fluids, says Rose Prissel, R.D., with the Mayo Clinic in Rochester, Minnesota. Dehydration is a major contributor to heatstroke, which is why it's crucial to keep drinking. It's also smart to exercise in the morning or evening, when it's cooler. To beat the heat quickly, put a cold cloth on the back of your neck; large vessels close to the skin there can

carry the cooled blood throughout your body quickly, says Susan Goodlerner, M.D., a dermatologist in Torrance, California, and spokeswoman for the American Academy of Dermatology.

Sinister seafood In the past 50 years, the oceans have retained 22 times more heat than the atmosphere. And along with damaging the coral reefs (the oldest habitats on earth) and changing weather patterns worldwide, that jump is putting bacteria in reproductive heaven. Outbreaks in shellfish are on the rise and can sicken both the fish and you, especially if you eat them raw. Symptoms include diarrhea, cramping, chills and, in rare cases, blood infections. Plus, according to Dr. Solomon, emerging research suggests that the steamy seas are contributing to an increase in the activity of sediment bacteria. These organisms do the dirty job of turning regular mercury into the methylmercury, the toxic form that accumulates in fish, particularly tuna, swordfish, shark, king mackerel and tilefish.

Protect yourself. Consider avoiding (or at least limiting) raw shellfish. Stick with low-mercury fish such as salmon and tilapia and limit tuna to once a week; steer clear of swordfish, shark, king mackerel and tilefish altogether. Sure, the fish will be happier—and most importantly, your body will, too. ■

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