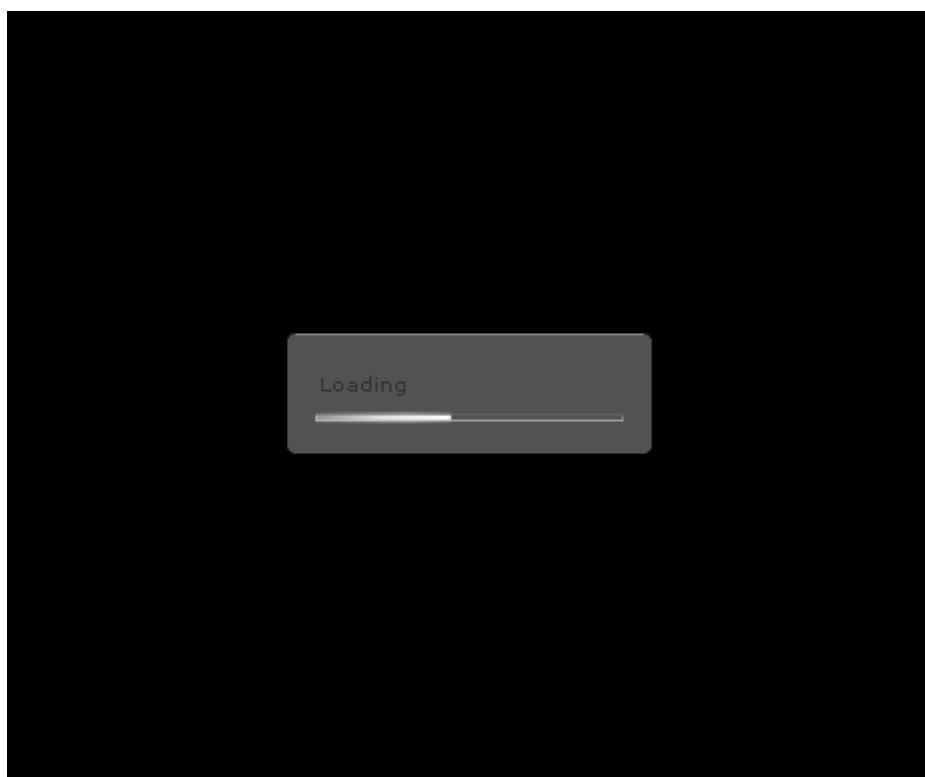


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Scientists doubt inventor's global cooling idea — but what if it works?



Scientist Ron Ace explains his theory.

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By Greg Gordon | McClatchy Newspapers

WASHINGTON — Ron Ace says that his breakthrough moments have come at unexpected times — while he lay in bed, eased his aging Cadillac across the Chesapeake Bay bridge or steered a tractor around his rustic, five-acre property.

In the seclusion of his Maryland home, Ace has spent three years glued to the Internet, studying the Earth's climate cycles and careening from one epiphany to another — a

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69-year-old loner with the moxie to try to solve one of the greatest threats to mankind.

Now, backed by a computer model, the little-known inventor is making public a U.S. patent petition for what he calls the most "practical, nontoxic, affordable, rapidly achievable" and beneficial way to curb global warming and a resulting catastrophic ocean rise.

Spray gigatons of seawater into the air, mainly in the Northern Hemisphere, and let Mother Nature do the rest, he says.

The evaporating water, Ace said, would cool the Earth in multiple ways: First, the sprayed droplets would transform to water vapor, a change that absorbs thermal energy near ground level; then the rising vapor would condense into sunlight-reflecting clouds and cooling rain, releasing much of the stored energy into space in the form of infrared radiation.

McClatchy has followed Ace's work for three years and obtained a copy of his 2007 patent petition for what he calls "a colossal refrigeration system with a 100,000-fold performance multiplier."

"The Earth has a giant air-conditioning problem," he said. "I'm proposing to put a thermostat on the planet."

Although it might sound preposterous, a computer model run by an internationally known global warming scientist suggests that Ace's giant humidifier might just work.

Kenneth Caldeira, a climate scientist at the Carnegie Institution's Department of Global Ecology at Stanford University, roughly simulated Ace's idea in recent months on a model that's used extensively by top scientists to study global warming.

The simulated evaporation of about one-half inch of additional water everywhere in the world produced immediate planetary cooling effects that were projected to reach nearly 1 degree Fahrenheit within 20 or 30 years, Caldeira said.

"In the computer simulation, evaporating water was almost as effective as directly transferring ... energy to space, which was surprising to me," he said.

Ace said that the cooling effect would be several times greater if the model were refined to spray the same amount of seawater at strategic locations.

He proposes to install 1,000 or more devices that spray water 20 to 200 feet into the air, depending on conditions, from barren stretches of the West African coast, bluffs on deserted Atlantic Ocean isles, deserts adjoining the African, South American and Mediterranean coasts and other arid or windy sites. To

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George Bridges / MCT

Ron Ace has filed for a patent on a way to prevent global warming. | [View larger image](#)

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maximize cloud formation, he'd avoid the already humid tropics, where most water vapor quickly turns to rain.

"It does seem like evaporating water outside the tropics would be more effective," Caldeira said.

The spraying would be targeted mainly at higher, northern latitudes, where Ace thinks that air currents known as Ferrel Cells could deliver heavy snow to the Arctic, offsetting the melting of the polar icecap.

It stretches the imagination — and perhaps credulity — to suggest that a solitary inventor with no government support could solve global warming, especially a man who never earned a degree despite studying physics for much of a decade at the University of Maryland.

Several scientists who reviewed Ace's patent petition for McClatchy reacted with caution to outright derision over its possibilities, but some softened their views upon learning of the computer model.

Ace's invention rests on some unconventional theories.

He contends that the planet is 5 to 6 degrees Fahrenheit too hot to stop the meltdown from the last ice age 20,000 years ago, not a couple of degrees too warm, as government scientists say. He proposes to lower the temperature by 3.5 degrees to 4 degrees, leaving a cushion to avoid tipping toward another ice age and always retaining the option of turning the sprayers down or off, if needed.

He suspects that deforestation is a major cause of global warming, not just because trees absorb carbon dioxide, but also because a large-leaf tree can wick up and evaporate hundreds of gallons of water in a single day. Ace said that the absence of tens of billions of trees, destroyed by southward-creeping glaciers thousands of years ago and again by man's recent timber cutting, has left the planet "slightly dehumidified," reducing cloud cover.

Ace points to recent research that found snow cover is shrinking even at below-freezing altitudes on Africa's Mount Kilimanjaro and other mountaintops, a change that's attributed to declining snowfall.

It would be relatively easy to design spraying equipment to carry out his plan to fill that water vapor deficit, but it would take a major international effort to install 1,000 large spraying devices, or thousands of smaller ones. If fully deployed, the 15,800 cubic meters of sprayed water per second would be equivalent to the flow at the mouth of the Mississippi River and would require enough energy to power a medium-sized city.

However, spraying only a portion of that amount for a decade would be enough to cool the equivalent of current man-made global warming, estimated to range up to 0.76 degrees Fahrenheit, Ace said. Such cooling, he said, could buy mankind decades of time for more research and precision.

Depending on its scale, the water evaporation scheme would cost anywhere from hundreds of millions of dollars to billions of dollars a year, but Ace said it still would have "a net positive financial effect." It would prevent global warming-related damage, he said, and the extra rainfall would provide the cheapest way to transport water to drought-stricken regions, counteract desert expansions, increase natural irrigation for crops and boost the output of hydroelectric power plants.

Added rainfall also would reduce atmospheric greenhouse gas levels, because cold raindrops carry more carbon dioxide back to the oceans than is released when water evaporates, he said.

Caldeira's computer results could surprise many scientists because water vapor is a greenhouse gas widely recognized to be more powerful than carbon dioxide. The simulation suggests, however, that water vapor's cooling effects overwhelm its heat-trapping properties.

Ace has his doubters, partly because he took the patent route rather than submitting his idea for scientific peer review. A patent certifies that an invention is unique, not that it would work.

Douglas Davis, an atmospheric chemist at Georgia Tech University who's known Ace for years, lauded some of his inventions but called his global cooling idea "big-time speculation" because so little is known about the behavior of water in the atmosphere.

"In the case of the computer models that are used for global warming, I know that the hydrological cycle is a critical component of those models, and the hydrological cycle is not well understood," Davis said, stressing that he's not a climate expert.

David Travis, a University of Wisconsin-Whitewater professor who's studied clouds extensively, praised Ace's innovation, but said he's "generally opposed to geo-engineering" solutions and can't imagine evaporating water on a large enough scale to have a near-term effect.

Caldeira, who plans to submit his computer findings in the spring for peer-reviewed publication, is among scientists so concerned about sluggish progress in curbing greenhouse gases that they met last year to consider geo-engineering options.

"Ideas such as Ron Ace's should be carefully and impartially evaluated," Caldeira told McClatchy. "Every brilliant innovation in the history of technology looked a little bit loony when first proposed."

Ace's invention looks less loony when compared with some others. NASA scientists conceived the multi-trillion-dollar idea of orbiting megaton mirrors in space to deflect sunlight. Other scientists have proposed reflecting solar energy by placing mirrors on thousands of high-altitude balloons, by foaming the oceans' surfaces or by filling the upper atmosphere with tiny sulfates or inert particles, or by adding water droplets to low-level ocean clouds from 1,500 unmanned boats.

Ace said he thinks that mankind is "headed straight for a disaster."

By focusing solely on solutions that deal with carbon in the atmosphere, Ace thinks that mankind won't prevent a "big glacier melt" that could lift ocean levels 20 feet and wipe out the world's seaports.

One thing is certain: Ace is dead serious. He's tenaciously compiled more than a thousand pages of research, sometimes during all-night binges despite a fight with cancer. He said he's invested large sums in patenting his global-warming inventions.

Ace said he's created more than 700 inventions, starting with a gravity-measuring machine he built in seventh grade to record passes of the sun and moon on cloudy days. He's won nearly 70 U.S. and foreign patents, but said he's lacked the time and money to submit petitions for all but about two dozen of his inventions. None has led to big commercial success.

Ace said that his unusual blend of expertise in physics, optics and heat transfer has helped him understand the role of light-scattering clouds and water's influence on climate.

Maintaining a hermit-like existence during the past three years, he's churned out more than half a dozen inventions that could help curb global warming, including several that he said would cut energy use.

He often speaks in professorial tones, but can quickly morph into a cynic or a feisty debater over the laws of physics, always mindful of the role of "the big heater" — the sun.

Ace said that he gradually steeped himself in the science of global warming because of "curiosity, nothing more."

"I never saw myself making a dime on it," said Ace, who said he'd donate his patent to the U.S. government if he gets one. "It's mostly that the data seemed to be incorrect, and I wanted to know what is right."

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OK, my name is Tom Zamora.

I am very intrested in fresh water. I would like to get involved in your program and would like to talk to someone that is interrested in puting your program into action.

Is itmoney that you need? If so that is no problem! I know how to get themoney needed to get started with just one water system.

Please do not waste my time if you are not serious about this.

My e-mail is thomaszamora@aol.com, or you can call me at 559-292-9420 if you like.

I know your concept will work you just need to put it in front of the right people.

I truly hope to hear from you ASAP!

Thank you,

Tom

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• [Momtrealiraqi](#) wrote on July 20, 1:17 PM:

Evaporating sea water will also bring salt to potentially fertile land- unless done over the ocean which may be humid and inefficient. Maybe Canada can sell great lakes water for evaporation over Mexico!



• [joze411](#) wrote on March 28, 8:31 PM:

joze411's comment has been removed.

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