

He's Back!
Check out the new webmonkey.com
Tutorials • Cheat Sheets • Beginners' guides
Daily News • Tips and Tricks

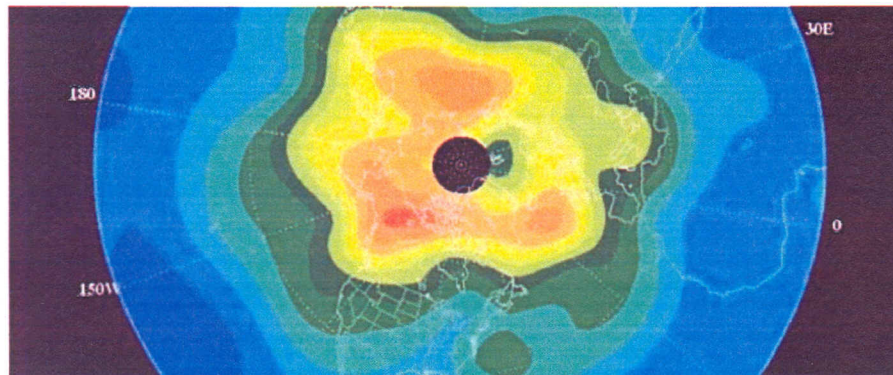
WIRED SCIENCE

Top Stories GO

« [Magnetic Fields Drawings](#) | [Main](#) | [Video: Russian Volunteers Learn to Breathe "Martian Air"](#) »

Geoengineering Quick-Fix Would Wreak Ozone Havoc

By Brandon Keim April 24, 2008 | 2:40:33 PM Categories: [Climate](#), [Engineering](#), [Environment](#)



A proposed quick fix for climate change will make our problems worse.

In a study published today in *Science*, researchers say that clouding Earth's atmosphere with sulfur particles will deplete global [ozone layers](#). Thinning would be worst at the North and South poles -- but in case turning those regions into irradiated dead zones seems a fair price for a cooled climate, mid-latitude ozone layers would also take a hit.

Some would-be [geoengineers](#) say that a steady, man-made stream of atmospheric aerosol particles could reflect sunlight and cool the planet, just as [Mount Pinatubo's eruption did in 1991](#). But the potential for unintended harm is grave. Weather patterns could shift in unwanted ways. Were the pump suddenly stopped, backlash would be catastrophic, the effects of still-accumulating carbon dioxide emerging with climatically overnight rapidity.

Today's study, led by [Simone Tilmes](#) at the National Center for Atmospheric Research, adds ozone depletion to this litany of possible problems. The volume of sulfur particles needed to cool the planet, says Tilmes, would destroy much of the Arctic's ozone layer; delay recovery of Antarctica's current ozone hole; and cause ozone thinning in [mid-latitude regions](#) -- which span, to be nationally self-centered for a moment, the United States.

Such depletion is undesirable because the ozone layer blocks ultraviolet radiation. That's why we used to hear so much about the vanishing ozone layer, though it's hardly a concern now. Why is that? Because the global community acted as one to deal with a pressing environmental threat.

Granted, banning [chlorofluorocarbons](#) -- a once-ubiquitous, ozone-gobbling ingredient in aerosol sprays -- was a lesser task than those demanded by climate change. But it's an instructive precedent.

At the moment, humanity is best served by pursuing industrial, economic and lifestyle changes appropriate to a carbon-neutral civilization. Sulfur pumps and other global geoengineering schemes should be held in reserve until catastrophic climate change can't be otherwise avoided.

"Aerosols could cool the Earth, but also change climate circulation," said Alan Robock, a Rutgers University climate scientist, when I talked to him last October for a [story on geoengineering](#). After warning of droughts and famine, he added, "There won't be blue skies anymore. The sky will look cloudy all the time."

[The Sensitivity of Polar Ozone Depletion to Proposed Geoengineering Schemes](#) [Science]

Image: National Oceanic and Atmospheric Administration

See Also:

- [Fighting Climate Change: Engineer First, Ask Questions Later?](#)

WIRED Science RSS Feed
And don't forget all the other [Wired feeds](#).

Subscribe to WIRED magazine



Subscribe and get our **15th ANNIVERSARY ISSUE GUARANTEED!**
Subscribe to WIRED
Renew
Give a gift
Customer Service

15th Anniversary Issue Guaranteed!

Subscribe to 1 Year of Wired for Just \$10* & get the **Wired Covers Poster FREE** with payment.

Full Name

Address

City

State Zip

Email

SUBMIT

*plus applicable sales tax.



FREE GIFT

TEAM

EDITOR: Dylan Tweney | [email](#)
STAFF WRITER: Alexis Madrigal | [email](#) | [IM](#)
CONTRIBUTOR: Brandon Keim
CONTRIBUTOR: Loretta Hidalgo Whitesides | [email](#)
CONTRIBUTOR: Aaron Rowe
CONTRIBUTOR: Adam Rogers

SEND US A TIP!

MOST RECENT ENTRIES

June 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

- [Fix Ozone Layer, Break Planet](#)
- [What to Do With Little Green Goo](#)
- [Huge Brushfire Caught on Time Lapse Video](#)
- [Would You Smoke Genetically Modified Marijuana?](#)
- [Better Fuel Through Pig Manure](#)
- [Nano-Scale Glassblowing Makes DNA Funnel](#)
- [Fight Your Migraines With a Drug Made From Left-Handed Sugars](#)