

Video: Nuclear Winter. Even a Smaller Nuclear War Would be Devastating. “Not Everybody Would Die, But Civilization Will Die ... Smoke Would Cover the Whole World”

"Such a war could just end up in no victory for anyone because we would wipe out the earth as we know it." Ronald Reagan

By [Alan Robock](#)

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Theme: [Militarization and WMD](#)

In-depth Report: [Nuclear War](#)

Alan Robock discusses his research into nuclear winter and considers how devastating even a small nuclear war could be for our climate and for human survival.

There are simply too many nuclear weapons in the world, by as much as a factor of 1,000, for anyone, anywhere, to be safe from the potential effects of even a small war.

The chance that nuclear weapons would be used by mistake, in a panic after an international incident, by a computer hacker or by a rogue leader of a nuclear nation can be eliminated only by the removal of the weapons themselves.

We were among the scientists involved in the initial research that discovered the potential for nuclear winter.

More modern and advanced climate modeling has confirmed the initial findings and shown that the effects would last for more than a decade. The reason is that smoke from nuclear conflagrations would rise as high as 25 miles into the atmosphere, where it would be protected from rain and take at least 10 years to dissipate.

*“A great many reputable scientists are telling us that such a war could just end up in no victory for anyone because we would wipe out the earth as we know it.” **Ronald Reagan***

*Even with the reduced nuclear arsenals that the United States and Russia agreed to in 2010, **we have the ability not only to set off instantaneous destruction, but also to push global temperatures below freezing, even in summer. Crops would die and starvation could kill most of humanity.***

Alan Robock, see Full Text of NYT Op Ed Below

Alan Robock. Nuclear Winter

Let's End the Peril of a Nuclear Winter

Feb. 11, 2016

Op-Ed Contributors, New York Times

By Alan Robock and Owen Brian Toon

IN the early 1980s, American and Russian scientists working together outlined a stark vision of the Cold War future. In a battle between the two superpowers, smoke from fires ignited by nuclear explosions would be so dense that it would block out the sun, turning the earth cold, dark and dry, killing plants and preventing agriculture for at least a year.

This dystopia became known as nuclear winter.

We haven't heard much about this apocalyptic future in recent years. But the research into the destructive potential of a war involving nuclear weapons has continued. Even with the reduced nuclear arsenals that the United States and Russia agreed to in 2010, we have the ability not only to set off instantaneous destruction, but also to push global temperatures below freezing, even in summer. Crops would die and starvation could kill most of humanity.

But it is not just the superpowers that threaten the planet.

A nuclear war between any two countries using 100 Hiroshima-size atom bombs, less than half of the combined arsenals of India and Pakistan, could produce climate change unseen in recorded human history.

This is why we should celebrate the recent [agreement with Iran](#), which may stop it from producing a nuclear weapon. And it is also why we should look with deep alarm at North Korea's recent launching of a rocket [to put a satellite in orbit](#), in what is believed to be an effort to develop an intercontinental ballistic missile.

Nine countries have nuclear arsenals, with an [estimated total](#) of 15,695 weapons, according to the Ploughshares Fund, a global securities group. About 94 percent are held by the United States and Russia. Except for North Korea, the other nuclear nations have each kept their arsenals at roughly 100 to 300 weapons. All have the destructive power to alter the global environment.

These weapons have not been a deterrent to war or aggression. But even if you think they can be, how many would you have to use? The answer is, probably one.

There are simply too many nuclear weapons in the world, by as much as a factor of 1,000, for anyone, anywhere, to be safe from the potential effects of even a small war. **The chance that nuclear weapons would be used by mistake, in a panic after an international incident, by a computer hacker or by a rogue leader of a nuclear nation can be eliminated only by the removal of the weapons themselves.**

We were among the scientists involved in the initial research that discovered the potential for nuclear winter. More modern and advanced climate modeling has confirmed the initial findings and shown that the effects would last for more than a decade. The reason is that smoke from nuclear conflagrations would rise as high as 25 miles into the atmosphere, where it would be protected from rain and take at least 10 years to dissipate.

In more recent research, we looked at the potential impact of a nuclear war between India and Pakistan, with each country detonating 50 Hiroshima-size bombs. These explosions would produce so much smoke that temperatures would plunge, shortening growing seasons and threatening the global food supply.

Our calculations, based on how crops grow in different weather, showed that wheat, rice, corn and soybean production could be reduced by 10 percent to 40 percent overall for five years. The ozone layer would also be depleted, allowing more ultraviolet radiation to reach the earth's surface.

We hope this continuing research on the effects of even a so-called small nuclear war will highlight the threat to the planet in the same way that visions of a nuclear winter did more than three decades ago for Russian and American leaders, when the total number of nuclear weapons peaked at about 70,000.

As Ronald Reagan put it in 1985, "A great many reputable scientists are telling us that such a war could just end up in no victory for anyone because we would wipe out the earth as we know it." Mikhail S. Gorbachev, the last leader of the Soviet Union, echoed Reagan's comment in an interview in 2000: "Models made by Russian and American scientists showed that a nuclear war would result in a nuclear winter that would be extremely destructive to all life on earth; the knowledge of that was a great stimulus to us" to reduce the size of nuclear arsenals in both countries.

The Obama administration's goal is to work for the elimination of nuclear weapons, with no specific timetable. But President Obama does not need a treaty with the Russians to take this action. He can just follow the lead of President George H. W. Bush, who unilaterally reduced America's nuclear arsenal as the Soviet Union was disintegrating.

With less than a year left in office, President Obama could add to his legacy by sending a similar signal to the Russians today. We could reduce our arsenal from roughly 7,000 weapons to 1,000, eliminating land-based missiles and outlining plans to further reduce air- and submarine-based missiles.

Mr. Obama said himself in 2009 that "the existence of thousands of nuclear weapons is the most dangerous legacy of the Cold War" and that the United States, as the only nation to have used these weapons, had "a moral responsibility" to seek a world without them. "We have to insist," he said, "'Yes, we can.'"

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