

Public awareness of 'nuclear winter' too low given current risks, argues expert

February 13 2023



Credit: Pixabay/CC0 Public Domain

There is a lack of awareness among UK and US populations of "nuclear

winter," the potential for catastrophic long-term environmental consequences from any exchange of nuclear warheads.

This is according to the researcher behind new polling conducted last month and released today by the University of Cambridge's Centre for the Study of Existential Risk (CSER)

Paul Ingram, CSER senior research associate, says that—despite risks of a nuclear exchange being at their highest for 40 years due to Russian warmongering—what little awareness there is of nuclear winter among the public is mainly residual from the Cold War era.

The scientific theory of nuclear winter sees detonations from nuclear exchanges throw vast amounts of debris into the stratosphere, which ultimately blocks out much of the sun for up to a decade, causing global drops in temperature, mass crop failure and widespread famine.

Combined with radiation fallout, these knock-on effects would see millions more perish in the wake of a nuclear war—even if they are far outside of any blast zone. Ideas of nuclear winter permeated UK and US culture during the Cold War through TV shows and films such as "Threads" and "The Day After," as well as in novels such as "Z for Zachariah."

The latest survey, conducted online in January 2023, asked 3,000 participants—half in the UK, half in the US—to self-report on a sliding scale whether they felt they knew a lot about "nuclear winter," and if they had heard about it from:

- Contemporary media or culture, of which 3.2% in the UK and 7.5% in the US said they had.
- Recent academic studies, of which 1.6% in the UK and 5.2% in the US claimed they had.

- Beliefs held during the 1980s, of which 5.4% in the UK and 9% in the US said they had heard of or still recalled.

"In 2023 we find ourselves facing a risk of nuclear conflict greater than we've seen since the early eighties. Yet there is little in the way of public knowledge or debate of the unimaginably dire long-term consequences of nuclear war for the planet and global populations," said Ingram. "Ideas of nuclear winter are predominantly a lingering cultural memory, as if it is the stuff of history, rather than a horribly contemporary risk."

"Of course it is distressing to consider large-scale catastrophes, but decisions need to account for all potential consequences, to minimize the risk," he continued. "Any stability within nuclear deterrence is undermined if it is based on decisions that are ignorant of the worst consequences of using nuclear weapons."

The survey also presented all participants with fictional media reports from the near future (dated July 2023) relaying news of nuclear attacks by Russia on Ukraine, and vice versa, to gauge support in the UK and US for western retaliation.

In the event of a Russian nuclear attack on Ukraine, fewer than one in five people surveyed in both countries supported in-kind retaliation, with men more likely than women to back nuclear reprisal: 20.7% (US) and 24.4% (UK) of men compared to 14.1% (US) and 16.1% (UK) of women.

The survey used infographics summarizing nuclear winter effects laid out in a recent study led by [Rutgers University \(published in *Nature Food* in August 2022\)](#). The Rutgers research used climate modeling and observations from [forest fires](#) and volcanoes, and found that even a limited nuclear war could see mass starvation of hundreds of millions in countries uninvolved in any conflict.

Half the survey sample in each country (750 in the UK and US) were shown the infographics before they read the fictional news of nuclear strikes, while the other half—a control group—were not.

Support for nuclear retaliation was lower by 16% in the US and 13% in the UK among participants shown the "nuclear winter" infographics than among the control group.

This effect was more significant for those supporting the parties of the US President and UK Government. Support for nuclear retaliation was lower by 33% among UK Conservative Party voters and 36% among US Democrat voters when participants were briefly exposed to recent nuclear winter research.

Added Ingram, "There is an urgent need for public education within all nuclear-armed states that is informed by the latest research. We need to collectively reduce the temptation that leaders of nuclear-armed states might have to threaten or even use such weapons in support of military operations."

Ingram points out that if we assume Russia's nuclear arsenal has a comparable destructive force to that of the US—just under 780 megatons—then the least devastating scenario from the survey, in which nuclear winter claims 225 million lives, could involve just 0.1% of this joint arsenal.

More information: Report title: Public awareness of nuclear winter and implications for escalation control, available at www.cser.ac.uk/

Provided by University of Cambridge

Citation: Public awareness of 'nuclear winter' too low given current risks, argues expert (2023, February 13) retrieved 22 June 2024 from <https://phys.org/news/2023-02-awareness-nuclear-winter-current-expert.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.