



TWO NEW SCIENTIFIC STUDIES UNDERLINE THE URGENCY OF NUCLEAR ARMS CONTROL AND THE NECESSITY OF PROHIBITING NUCLEAR WEAPONS

In a full-scale nuclear war between the United States and Russia, hundreds of millions of deaths from blast, fire, and radiation would be only the beginning. In a study¹ released on August 15, 2022, Rutgers climate scientists Lili Xia, Alan Robock, and their colleagues calculate that five **billion** people would subsequently die from hunger. Smoke and soot from firestorms caused by nuclear explosions would linger in the atmosphere for years, blocking sunlight. This would cause drastic drops in global temperature and lead to massive crop failures. Even a much smaller nuclear war between India and Pakistan is calculated to lead to two billion hunger deaths.

Another scientific study released this summer² calculates the effects of a nuclear war on the ocean. It finds that, in addition to the massive crop failures mentioned above, “the nuclear cooling event” would decimate marine life and cause massive expansion of sea ice, ushering in a “Nuclear Little Ice Age.” Climate models indicate that the ocean would take many decades to return to normal.

To subject humanity and the planet to this kind of danger from the threat of nuclear weapons is not only a flagrant violation of international law but also an affront to reason and to human decency. The member states of the Nuclear Non-Proliferation Treaty should:

- Call on the United States and Russia to promptly renew negotiations on extension of New START, as well as broader negotiations on arms control and strategic stability, and to heed the repeated resolutions of the General Assembly calling for a lowering of nuclear missile alert status to reduce the risk of accidental war.
- Call on the United States and China to begin serious discussions of transparency and strategic stability.
- Call on all of the NPT nuclear-armed states to make a prompt and time-specific commitment to good faith negotiations on complete nuclear disarmament under Article VI of the NPT.

¹ Xia, Lili, Alan Robock, Kim Scherrer, Cheryl S. Harrison, Jonas Jägermeyr, Charles G. Bardeen, Owen B. Toon, and Ryan Heneghan, 2022: “Global food insecurity and famine from reduced crop, marine fishery and livestock production due to climate disruption from nuclear war soot injection.” *Nature Food*, <https://doi.org/10.1038/s43016-022-00573-0>.

² Harrison, Cheryl S., Tyler Rohr, Alice DuVivier, Elizabeth A. Maroon, Scott Bachman, Charles G. Bardeen, Joshua Coupe, Victoria Garza, Ryan Heneghan, Nicole S. Lovenduski, Philipp Neubauer, Victor Rangel, Alan Robock, Kim Scherrer, Samantha Stevenson, and Owen B. Toon, 2022: “A new ocean state after nuclear war.” *AGU Advances*, **3**, e2021AV000610, <https://doi.org/10.1029/2021AV000610>.