**US-Russia war doesn’t cause extinction**

**Bostrom 7** [Nick, Future of Humanity Institute, Faculty of Philosophy & James Martin 21st Century School, Oxford University, 2009 Gannon Award Recipient, The Future of Humanity, 2007, [www.nickbostrom.com/papers/future.pdf](http://www.nickbostrom.com/papers/future.pdf)]

Extinction risks constitute an especially severe subset of what could go badly wrong for humanity. **There are many possible global catastrophes that would cause immense** worldwide **damage**, maybe even the collapse of modern civilization, **yet fall short of terminating the human species.** An **all-out nuclear war between Russia and the U**nited **S**tates might be an example of a global catastrophe that **would be unlikely to result in extinction**. A terrible pandemic with high virulence and 100% mortality rate among infected individuals might be another example: if some groups of humans could successfully quarantine themselves before being exposed, human extinction could be avoided even if, say, 95% or more of the world’s population succumbed. **What distinguishes extinction and other existential catastrophes is that a comeback is impossible. A non-existential disaster causing** **the breakdown of** global **civilization is,** from the perspective of humanity as a whole, a **potentially recoverable setback:** a giant massacre for man, a small misstep for mankind.

**Nuclear war won’t devastate the environment significantly – simulations deny reality and washout effect solves**

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All that remains of Sagan's Big Chill are curves such as this, but history is full of prophets of doom who fail to deliver, not all are without honor in their own land. The 1983 'Nuclear Winter " papers in Science were so politicized that even the eminently liberal President of The Council for a Liveable World called "The **worst example of the misrepesentation of science** to the public in my memory." Among the authors was Stanford President Donald Kennedy. Today he edits Science , the nation's major arbiter of climate science--and policy. Below, a case illustrating the mid-range of the ~.7 to ~1.6 degree C maximum cooling the 2006 studies suggest is superimposed in color on the Blackly Apocalyptic predictions published in Science Vol. 222, 1983 . They're worth comparing, because the range of soot concentrations in the new models overlaps with cases assumed to have dire climatic consequences in the widely publicized 1983 scenarios. It is hard to exaggerate how seriously " nuclear winter "was once taken by policy analysts who ought to have known better. Many were taken aback by the sheer force of Sagan's rhetoric Remarkably, Science's news coverage of the new results fails to graphically compare them with the old ones Editor Kennedy and other recent executives of the American Association for the Advancement of Science, once proudly co-authored and helped to publicize. You can't say they didn't try to reproduce this Cold War icon. Once again, soot from imaginary software materializes in midair by the megaton , flying higher than Mount Everest . This is **not physics**, but a crude exercise in ' garbage in, gospel out' parameter forcing designed to maximize and extend the cooling an aeosol can generate, by sparing it from realistic attrition by rainout in the lower atmosphere. Despite decades of progress in modeling atmospheric chemistry, there is none in this computer simulation, and ignoring photochemistry further extends its impact. Fortunately, the history of science is as hard to erase as it is easy to ignore. Their past mastery of semantic agression cannot spare the authors of "Nuclear Winter Lite " direct comparison of their new results and their old. Dark smoke clouds in the lower atmosphere **don't last long enough** to spread across the globe. Cloud droplets and rainfall remove them. rapidly washing them out of the sky in a **matter of days** to weeks- not long enough to sustain a global pall. Real world weather brings down particles much as soot is scrubbed out of power plant smoke by the water sprays in smoke stack scrubbers Robock acknowledges this- not even a single degree of cooling results when soot is released at lower elevations in he models . The workaround is to inject the imaginary aerosol at truly Himalayan elevations - pressure altitudes of 300 millibar and higher , where the computer model's vertical transport function modules pass it off to their even higher neighbors in the stratosphere , where it does not rain and particles linger.. The new studies like the old suffer from the **disconnect** between a desire to paint the sky black and the vicissitudes of natural history. As with many exercise in worst case models both at invoke rare phenomena as commonplace, claiming it prudent to assume the worst. But the real world is subject to Murphy's lesser known second law- if everything must go wrong, don't bet on it. In 2006 as in 1983 firestorms and forest fires that send smoke into the stratosphere rise to alien prominence in the modelers re-imagined world , but i the real one remains a very different place, where though every month sees forest fires burning areas the size of cities - 2,500 hectares or larger , stratospheric smoke injections arise but once in a blue moon. So how come these neo-nuclear winter models feature so much smoke so far aloft for so long? The answer is simple- the modelers intervened. Turning off vertical transport algorithms may make Al Gore happy- he has bet on reviving the credibility Sagan's ersatz apocalypse , but there is no denying that in some of these scenarios human desire, not physical forces accounts for the vertical hoisting of millions of tons of mass ten vertical kilometers into the sky.to the level at which the models take over , with results at once predictable --and arbitrary. This is not physics, it is **computer gamesmanship carried over to a new generation of X-Box**.