

# Climate Change, Health, and Civilization's Existential Challenges

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## Abstract

Anthropogenic global warming, when combined with social and other environmental factors, poses a significant health threat. This work presents a comprehensive evaluation of the literature from 1989 to 2013 (inclusive), which covers the first 25 years of publication of this topic in scholarly publications. It looks at how many articles have indicated potentially catastrophic, civilization-threatening health hazards linked to climate change. 1546 (72%) of the 2143 papers examined were given a score of one. Their citations accounted for 82 percent of the total (165,133). The proportion of annual publications with a score of three was initially high, as were their citations, but by 1996, it had dropped to practically zero, before marginally increasing in 2006. Increased awareness of the importance of climate change on global health has resulted in a massive development of the literature. However, there was a general lack of awareness of the most serious, existential health concerns posed by climate change. Despite the fact that scientific discoveries have long advocated for increased interdisciplinary collaboration, most studies instead concentrated on infectious diseases, direct heat effects, and other disciplinary-bounded phenomena and consequences.

**Keywords:** Comprehensive review • Existential risk • Global warming • Global health, Migration • Climate changes

## Introduction

Leading climate scientist James Hansen of the National Aeronautics and Space Administration, along with three other senior researchers, testified to a US Congressional committee in 1988 that he was 99 percent certain that the warming trend in Earth's temperature at the time was caused by the accumulation of carbon dioxide and other "greenhouse" gases, rather than natural variation. The New York Times featured this testimony heavily. Hansen was chastised at the time, and since, for his "adventurous" interpretation of climate data, but the media attention that followed his testimony, which reflected a decade of growing concern about the geopolitical implications of climate change, may have influenced health professionals to think more deeply about the issues [1]. In any case, a year from now, Eight years after a chapter on climate change and parasitic illness was published, a Lancet editorial explored health and the "greenhouse effect," arguably the first such publishing in a health journal. In the 1980s, at least six further chapters on this issue were published, as well as at least two reports. See for more information. In 1989, two more academic articles on climate change and health were also published [2].

"Global warming, increased UV flux, and higher atmospheric temperature ozone levels will affect agricultural production, potentially damaging world food supplies," the editorial wrote in 1989. Malnutrition (sic) might become more frequent, even among rich countries, and armed conflicts would become more likely as countries struggle for depleting natural resources." The early 1990s saw a resurgence of warnings about the possibly catastrophic repercussions of climate change. By the millennium, however,[3] the author received the impression that the scientific publishing community was becoming less receptive to the idea that climate change and

Other forms of "planetary overload" constitute existential, civilization-wide threats. This was alarming, because my own confirmation bias seemed to corroborate the idea that the evidence of existential threat was growing. Climate change is the "biggest global health threat of the twenty-first century," according to a lengthy article published in 2009 by the Lancet and the University College London Institute for Global Health Commission, which called it the "biggest global health threat of the twenty-first century." Despite the fact that this paper drew a lot of attention at the time, the long-term picture for climate change and health has only gotten worse since then [4]. I just use term "existential" to refer to everything that has to do with the word "existence." But it is the existence of a high degree of civilization function, one in which prospects of "health for many" (albeit no longer "health for all") are feasible and even improving, that is in question. Existential danger may not always imply the end of the world's civilization. It also doesn't rule out areas of order and even wealth lasting decades, from which a worldwide or quasi-global civilization could arise in the future, assuming worst-case situations like catastrophic climate change and nuclear war leading to nuclear winter are avoided [5].

## Discussion

Since the 19th century, scientists have known that gases, primarily from the burning of fossil fuels and forest clearing, contribute to the natural "greenhouse effect." "Human beings are presently conducting a large-scale geophysical experiment of a kind that could not have occurred in the past nor be replicated in the future," [6] experts observed in 1957. We'll be returning the concentrated organic carbon stored over hundreds of millions of years to the air and oceans in a few hundred years." In 2015, the Paris climate change agreement, negotiated by representatives of 196 parties (195 nations and the European Union), committed countries (thus, effectively, civilization) to actions that would seek to limit average global warming to "well below" 2 degrees Celsius above "pre-industrial" levels and to "pursue efforts" to limit the rise to 1.5 degrees Celsius after ratification. The Paris Agreement does not specify a pre-industrial temperature or a time period for this baseline, but most experts agree that it refers to the temperature in the late 18th or early 19th centuries, shortly after the start of the industrial revolution, when coal use increased [7].

There is also mounting evidence of greenhouse effect-intensifying feedbacks in the Earth system that could release massive amounts of carbon dioxide and methane from sources such as warming tundra and increased peat and forest fires, independent of fossil fuel combustion, agriculture, or deforestation. Such emissions could dwarf the climate savings made possible by the Paris climate agreement's ostensible implementation. The oceanic carbon sink is likewise deteriorating in strength. If this continues, the atmosphere, oceans, and land would likely warm faster. Environmental health effects interact with social and technological elements as well as other "pure" environmental determinants in all, or almost all, cases. Temperature, humidity, activity, hydration, age, pre-existing health status, as well as occupation, clothes, behaviour, freedom, vulnerability, and sense of obligation, all influence the effects of heat on individual health [8]. Is the individual who is impacted by heat, such as a brick builder in India, able to control her heat exposure, or is it an exceptional athlete or an emergency worker who is willingly exceeding their limits? Housing quality, the existence or lack of inexpensive air conditioning, and any energy subsidies, if any, are all factors that influence the health impact of heat. Governance and socioeconomic position, in turn, influence these aspects [9].

The percentage of human-caused (anthropogenic) climate change attributable to physical occurrences like storms, floods, and heat waves is both debatable and assumption-based. Climate change's role to more indirect, socially mediated outcomes like migration, starvation, and violence is considerably more challenging and debatable. Famine, genocide, large-scale population dislocation, and conflict have, with rare exceptions, been pushed to the margins of public health due to these causative complexities [10]. This is despite the fact that these occurrences have evident large-scale negative health consequences. Many authors from fields other than health have expressed concern about the fragility of modern civilisation. However, there have been very few contributions from writers with a background in medicine. Tony McMichael, who led the first chapter on health of the Intergovernmental Panel on Climate Change, frequently wrote and spoke about declining "life support mechanisms," a term possibly coined by Sargent

in 1972. When McMichael used this term, he clearly intended to indicate a serious threat to human well-being and health [11].

Following 1996, there were multiple plausible, overlapping, and interactive factors for the drop in the proportion of articles rated two or three (and their correspondingly fewer citations), as well as the failure of papers released since 2009 to adequately amplify the most severe warnings. Self-censorship is a likely contributing factor. Many health editors and writers are inexperienced with the topic of climate change and health. Many English-speaking countries, particularly the United States and Australia, have politicised climate change [12]. As a result, for some health care providers and editors, even bringing up the subject of climate change and health may be a risky proposition. The publication of studies in medical journals describing potential threats to civilisation would appear even more daring. It's unsurprising that such studies are remain uncommon, at least until 2014, and especially in journals without a strong history of publishing papers or editorials on the subject.

The necessity for adaptation has become overwhelming as the effects of climate change have become more apparent. A focus on adaptation does not always imply a misunderstanding of climate change's eventual severity. A focus on adaptation at the expense of mitigation, on the other hand, may do so. Adaptation is favoured by political leaders in many countries [13].

## Conclusion

Countries in the developing world will suffer both the direct effects of drought and flood, as well as the knock-on effect of agricultural and economic collapse in the West," Fiona Godlee, then deputy editor of the BMJ, warned in 1990. The already-existing challenges of feeding the world's growing population would be exacerbated by the growing number of displaced individuals who are unable to raise their own food." "It is likely that detrimental lagged consequences of current industrial (and military) operations could disrupt the habitat of future generations of our species through processes such as stratospheric ozone depletion, global warming, and other as yet unpredicted processes," Powles wrote in 1992. The author has long been concerned about civilization's survival, having grown up during the Cold War. My global health disaster chronology, on the other hand, has always been multi-decadal. Civilizational collapse, if it happens at all, will not happen in my lifetime. My worries aren't only about climate change. Climate change is unlikely to bring civilization to a halt on its own. Hunger and poverty might be readily eliminated by a well-functioning global civilization that is driven to do so, not only today, but in all but the worst-case scenarios of climate change. Inundated islands, war-torn Syria, and the drought-stricken Chad basin could all easily be accommodated in more productive and higher-altitude portions of the earth.

## References

1. Chabaud, A.G. "Protozoology: Parasitological Topics. A Presentation Volume to PCC Garnham, FRS, on the Occasion of His 80th Birthday, 1981. Elizabeth U. Canning, Ed. Published for the Society of Protozoologists by Allen Press, Lawrence, Kans., 1981. viii, 290 pp., illus. Paper, \$35. Society of Protozoologists Special Publication No. 1." *Science* 216.4549 (1982): 978-978.
2. Kalkstein, L.S., & Smoyer, K.E. "The impact of climate change on human health: some international implications." *Experientia* 49.11 (1993): 969-979.
3. Leaf, A. "Potential health effects of global climatic and environmental changes." *Eng J Med* 321.23 (1989): 1577-1583.
4. Last, J.M. "A vision of health in the 21st century: medical response to the greenhouse effect." *CMAJ: Can Med Asso J* 140.11 (1989): 1277.
5. Butler, C. "Inequality, global change and the sustainability of civilisation." *Global Chang Hum Health* 1.2 (2000): 156-172.
6. Costello, A., et al. "Managing the health effects of climate change: lancet and University College London Institute for Global Health Commission." *Lancet* 373.9676 (2009): 1693-1733.
7. Butler, C. "Sustainable health for all by the year 2100?." *Intern J Pub Health* 53.5 (2008): 223.
8. Hansen, J.E. "Scientific reticence and sea level rise." *Environ Res Lett* 2.2 (2007): 024002.
9. Weart, S.R. "The discovery of global warming". *Harvard Univ Press* (2008).
10. Millar, R.J., et al. "Emission budgets and pathways consistent with limiting warming to 1.5 C." *Nature Geosci* 10.10 (2017): 741-747.
11. Schurer, A.P., et al. "Interpretations of the Paris climate target." *Nature Geosci* 11.4 (2018): 220-221.
12. Kelley, C., et al. "Commentary on the Syria case: Climate as a contributing factor." *Political Geog* 60.1 (2017): 245-247.
13. Butler, C., "ed. Climate change and global health". *CABI* (2016).