ONE WORLD

CLIMATE ENDGAME?

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Climate Endgame: Exploring catastrophic climate change scenarios

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Prudent risk management requires consideration of bad-to-worst-case scenarios. Yet, for climate change, such potential futures are poorly understood. Could anthropogenic climate change result in worldwide societal collapse or even eventual human extinction? At present, this is a dangerously underexplored topic.

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ANALYSIS

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Over half of known human pathogenic diseases can be aggravated by climate change

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It is relatively well accepted that climate change can affect human pathogenic diseases; however, the full extent of this risk remains poorly quantified. Here we carried out a systematic search for empirical examples about the impacts of ten climatic hazards sensitive to greenhouse gas (GHG) emissions on each known human pathogenic disease. We found that 58% (that is, 218 out of 375) of infectious diseases confronted by humanity worldwide have been at some point aggravated by climatic hazards; 16% were at times diminished. Empirical cases revealed 1,006 unique pathways in which climatic hazards, via different transmission types, led to pathogenic diseases. The human pathogenic diseases and transmission pathways aggravated by climatic hazards are too numerous for comprehensive societal adaptations, highlighting the urgent need to work at the source of the problem: reducing GHG emissions.

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