



Is the World in a State of Climate Change Planetary Emergency?

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Leading climate change experts have made public statements that the world is beyond dangerous interference with the climate system, committed to a warming of 3-5°C, facing a risk of global climate catastrophe, and in a state of planetary emergency, but these conclusions are not informing climate change policy. The evidence for these statements is examined and presented in this paper. The main parameters considered are world food security and carbon feedback "runaway" or rapid global warming. 2012 was a record year for Arctic albedo loss, which amplifies Arctic warming and drives Arctic methane feedback emissions. Since 2007, atmospheric methane is experiencing a renewed, sustained increase due to feedback emissions. All potentially large positive Arctic feedbacks are operant. These include albedo loss from disappearing snow and summer sea ice; methane released from peatlands, thawing permafrost and sea floor methane hydrates; and nitrous oxide from cryoperturbed permafrost. Increasing extreme weather events have caused regional crop productivity losses on many continents since 2000. The loss of Arctic albedo might be driving extreme heat and drought in the northern hemisphere. Today the formal national pledges for emissions reductions filed with the UN, combined, commit humanity to a warming of 4.4°C (Climate Interactive) by 2100, which is more than 8°C eventually after 2100, and there are no initiatives to change this. The International Energy Agency warns that the current global economy is on track for a warming of 6°C by 2100. A simple yet novel summation approach of all unavoidable sources of warming estimates the committed unavoidable warming to be 3°C by 2100. What are the implications of these future commitments for world food security and the risk of runaway climate change? The paper considers how these commitments and the policy-relevant research findings can inform policy making with respect to an appropriate science-based mitigation response.