Modeling climate mortality: Implications for human security and climate litigation

Richard Parncutt, Uni Graz, March 2024

The equal value of each conscious human life underlies all human values. A utilitarian, altruistic approach to human rights systematically and efficiently reduces preventable human death and suffering. That means estimating future death tolls from different causes and maximally reducing them. In the case of anthropogenic global warming (AGW), death toll predictions could save millions of human lives and billions of non-human lives by contributing to ethical awareness, climate change communication, political/military strategy (human security), economic planning, and litigation against fossil majors.

Burning one trillion tonnes of fossil carbon will cause ≥ 2°C of AGW. If that causes one billion premature human deaths over 1-2 centuries (order-of-magnitude estimate), burning 1000 tonnes of fossil carbon causes one future death (Parncutt, 2019; Pearce & Parncutt, 2023; cf. Bressler, 2021; Lenton et al., 2023). Clearly, both mitigation and adaptation must now be accelerated as fast as possible without causing additional deaths.

A holistic approach to testing these ideas means estimating probabilities and consequences of different best- and worse-case scenarios (cf. IPCC). An analytical approach considers global death tolls from AGW-driven starvation, humid heat, disease, wildfire smoke, conflict, migration, meteorological and geophysical disasters, and their interactions. All such death tolls will be exacerbated by poverty, population growth, and biodiversity loss. The analysis can also be temporal, predicting future changes in AGW mortality.

Relevant published data are sometimes exaggerated (alarmism). More often, they are conservative, focusing on selected causes of death while ignoring others; underestimating current relevant death rates and their acceleration due to missing data; extrapolating from smaller death rates (bottom-up approach) instead of comparing larger relevant death rates (top-down); or hesitating to quantify low-probability, high-risk scenarios.

References

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