The kids aren't alright

Wim Thiery
Vrije Universiteit Brussel, Department of Hydrology and Hydraulic Engineering, Brussels, Belgium (wim.thiery@vub.be)

Under continued global warming, extreme events such as heatwaves will continue to rise in frequency, intensity, duration, and spatial extent over the next decades. Younger generations are therefore expected to face more such events across their lifetimes compared to older generations. This raises important questions about solidarity and fairness across generations that have fuelled a surge of climate protests led by young people in recent years, and that underpin questions of intergenerational equity raised in recent climate litigation. However, scientific analyses that explicitly consider the intergenerational equity dimension of the climate crisis are remarkably absent. Our standard scientific paradigm is to assess climate change in discrete time windows or at discrete levels of warming, a “period” approach that inhibits quantification of how much more extreme events a particular generation will experience over its lifetime compared to another. By developing a “cohort” perspective to quantify changes in lifetime exposure to climate extremes and compare across generations, we estimate that children born in 2020 will experience a two to sevenfold increase in extreme events, relative to the 1960 birth cohort, under current climate pledges. Building on this framework, we quantify where and when people start living an unprecedented life, as well as intergenerational differences in exposure to attributable extreme events. Furthermore, using a new water deficit indicator, we uncover spatiotemporal differences in lifetime water scarcity. Our results overall highlight a severe threat to the safety of young generations and call for drastic emission reductions to safeguard their future. Finally, this research is already being used in ongoing litigation (e.g. Duarte Agostinho and Others v. Portugal and 32 Other States), calling for more research in this direction to bolster the upcoming wave of climate lawsuits.