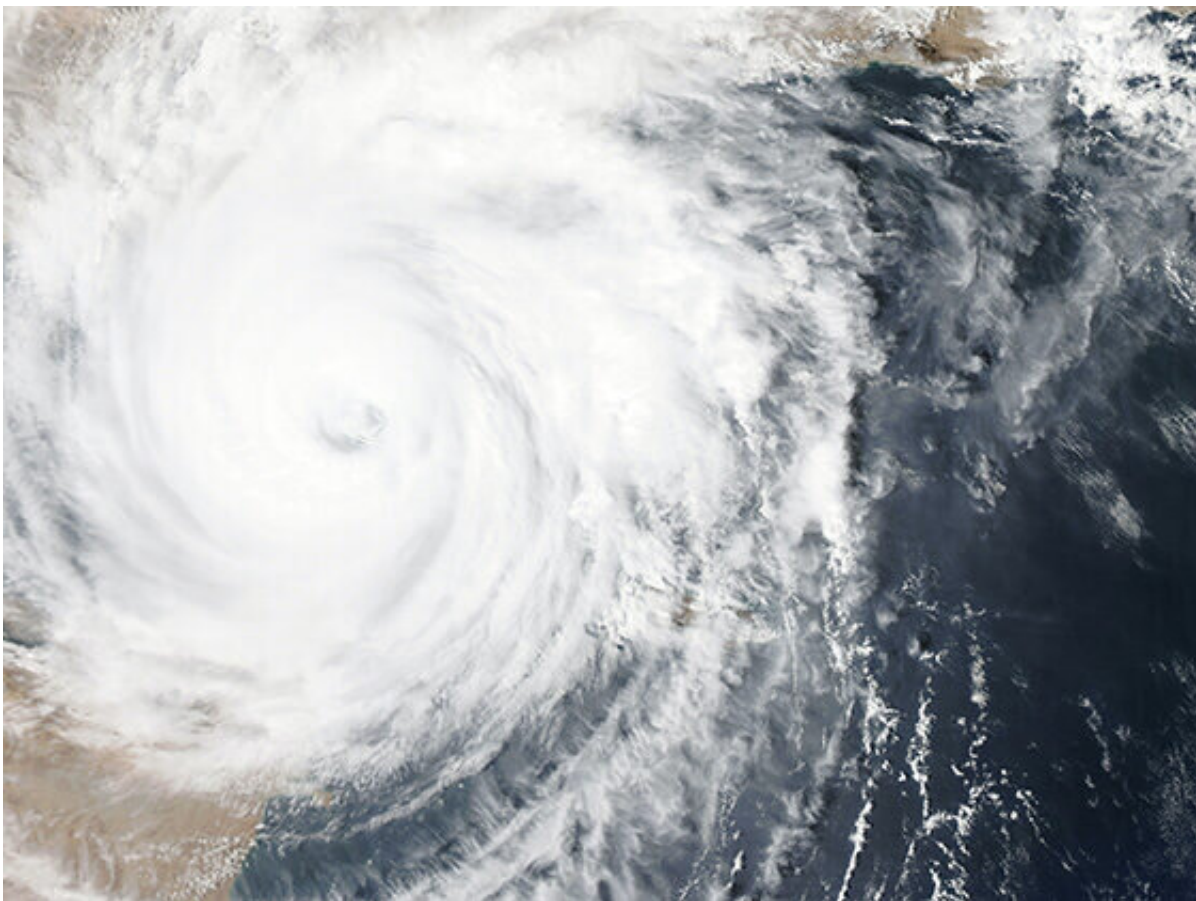


Study: Climate change's cost includes losses of learning and earnings due to natural disasters

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Credit: NASA on Unsplash

In the wake of natural disasters, survivors' losses of education and

lifetime earnings may be comparable to the cost of property damage, according to a new study in *Nature Human Behaviour* co-authored by R. Jisung Park, an assistant professor at Penn's School of Social Policy & Practice (SP2) with a secondary appointment at the Wharton School.

"In this paper, we compile what is to our knowledge the most comprehensive dataset assembled to date to assess the human capital consequences of natural disasters," write Dr. Park and colleagues, who note the link between [climate change](#) and natural disasters.

By combining data about national disaster declarations, local property damage, standardized achievement, and post-secondary enrollment in the United States from 2008 to 2018, the authors quantify how natural disasters reduce learning, years of schooling, and ultimately the lifetime earnings of the people they affect:

- Natural disasters that cause assessed property damage of \$10 to \$100 per person result in reduced learning gains of approximately 0.006 standard deviations.
- Natural disasters that cause over \$500 in per capita damages reduce postsecondary enrollment by approximately 2.5%.
- Disasters that caused at least \$500 in per-capita physical damages reduced a region's human capital by approximately \$268 per capita (\$1,500 per student).
- Disasters with per capita physical damages of \$100 to \$500 result in human capital losses of approximately \$185 per capita (\$1,050 per student).

"These numbers should be viewed as indicative of the impact that disasters have on human capital, rather than definitive estimates of their effects," the authors write.

The findings bolster existing evidence that the natural environment is a

significant factor contributing to [economic inequality](#). They also point to the need to develop policy approaches that would help societies to address the human cost of [natural disasters](#), such as educational assistance programs.

More information: Isaac M. Opper et al, The effect of natural disasters on human capital in the United States, *Nature Human Behaviour* (2023). [DOI: 10.1038/s41562-023-01610-z](https://doi.org/10.1038/s41562-023-01610-z)

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