How a changing climate could impact socioeconomic systems

Five systems directly affected by physical climate change



Livability and workability



Food systems



Physical assets



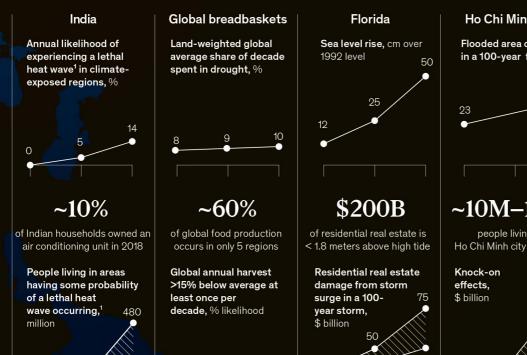
Infrastructure services

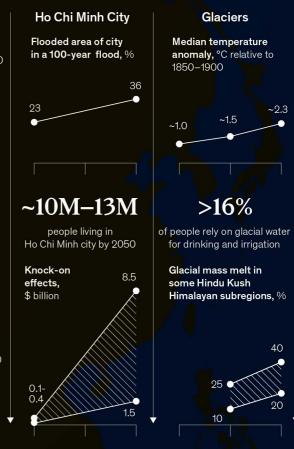


Natural capital

Examples of direct impact of physical climate risk across geographies and sectors, today, 2030, and 2050

This assessment of the hazards and impacts of physical climate risk is based on an "inherent risk" scenario absent any adaptation and mitigation response. Analysis based on modeling of an RCP 8.5 scenario of greenhouse gas concentrations.





A global geospatial assessment of climate risk by 2050

0.7B-1.2B

people living in areas with a 14 percent average annual likelihood of lethal heat waves. **Increase**

in volatility of yields globally, some countries could benefit while others could see increased risk. $2\times -4\times$

the amount of capital stock that could be damaged from riverine flooding by 2030 and 2050. ~45%

of the earth's land area projected to experience biome shifts, impacting ecosystem services, local livelihoods, and species' habitat.

What can be done to adapt to increased physical climate risk?

Protect people and assets



Build resilience



Reduce exposure



Insure



Finance



Lethal heat waves are defined as three-day events during which average daily maximum wet-bulb temperature could exceed the survivability threshold for a healthy human being resting in the shade. The numbers here do not factor in air conditioner penetration. These projections are subject to uncertainty related to the future behavior of atmospheric aerosols and urban heat island or cooling island effects.

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For the dates, the climate state today is defined as the average conditions between 1998 and 2017, 2030 refers to the average of the years 2021–40, while 2050 refers to the average of the years 2041–60.