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## Amplified warming of extreme temperatures over tropical land

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Extreme temperatures have warmed substantially over recent decades and are projected to continue warming in response to future climate change. Warming of extreme temperatures is amplified over land where the impacts on human health, wildfire risk and food production are most severe. Using simulations with climate models, I show that hot days over tropical land warm substantially more than the average day. For example, warming of the hottest 1% of land days is 24% larger than the time-mean warming averaged across models. The climate-change response of extreme temperatures over tropical land is interpreted using a theory based on atmospheric dynamics. According to the theory, warming is amplified for hot land days because those days are dry: I term this the "drier get hotter" mechanism. Changes in near-surface relative humidity further increase tropical land warming, with decreases in land relative humidity particularly important. The theory advances physical understanding of the tropical climate and highlights land-surface dryness as a key factor determining how extreme temperatures will respond to future climate change.