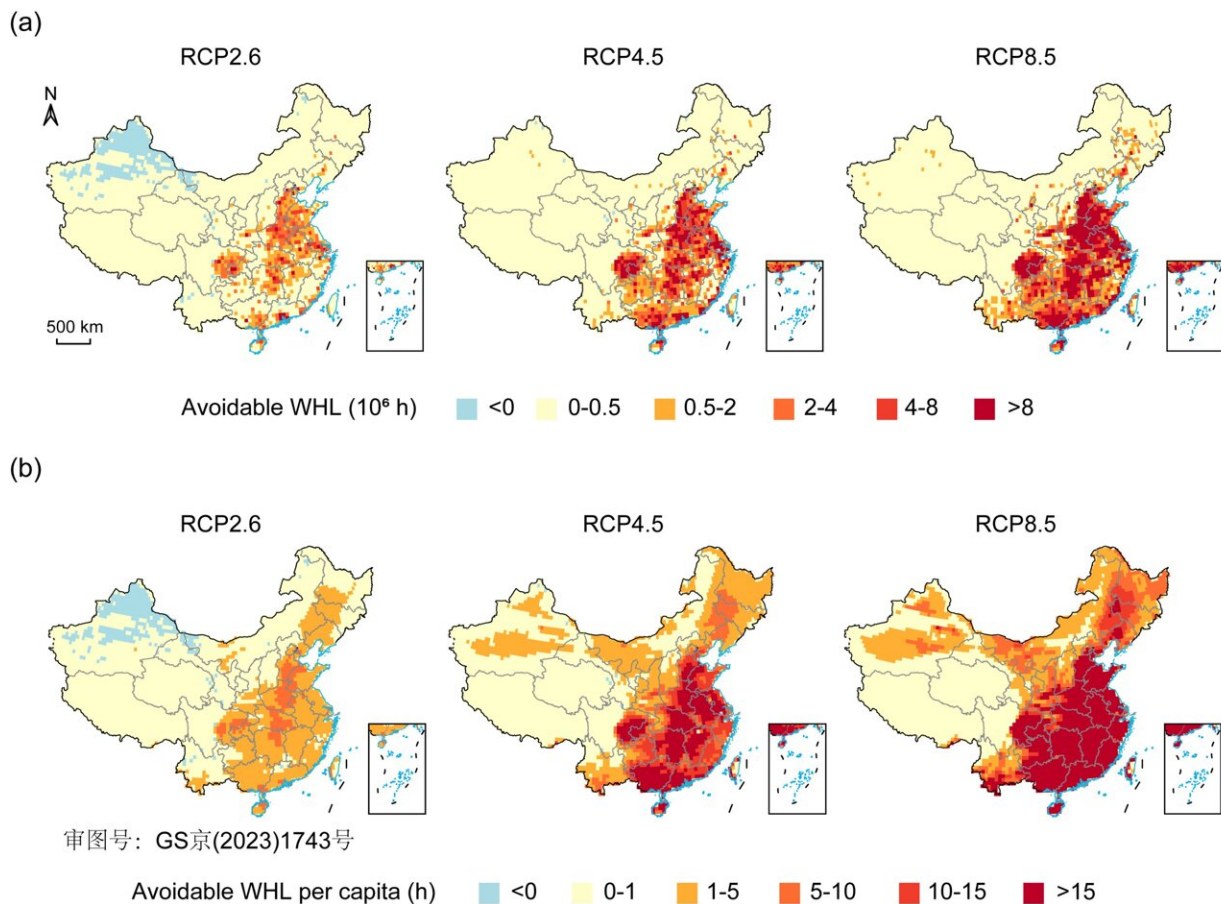


# Future labor losses due to heat stress in China under climate change scenarios

December 29 2023



The avoidable WHL under the 1.5°C scenario compared with three RCP scenarios in mid-century. (a) Total avoidable WHL if achieving the 1.5°C goal in mid-century (2051–2070). (b) Avoidable WHL per capita if achieving the 1.5°C goal in mid-century (2051–2070). Credit: *Science Bulletin* (2023). DOI: 10.1016/j.scib.2023.09.044

Climate change is the biggest global health threat in the 21st century, and the rising temperatures have undermined the health and safety of the working population, as well as caused labor losses, which are closely tied to social-economic development. Although the future temperatures increase in China has been forecasted by state-of-the-art climate change projections, to what extent the influence on labor has not been well studied.

In a paper [published](#) in *Science Bulletin*, a Chinese research team presents evidence of future labor losses due to [heat stress](#) in China under climate change scenarios. This study was led by Cunrui Huang, a professor at the Vanke School of Public Health, Tsinghua University.

They found that climate change will exacerbate heat-related work hours lost (WHL) in China, even with a reduced working population in the future. The southern, eastern, and central provinces of China are the most affected, which is largely due to their higher temperature exposure, larger population size, and higher shares of vulnerable populations in total employment.

However, limiting [global warming](#) to 1.5°C would yield substantial gains. Compared to RCP2.6, RCP4.5 and RCP8.5, all provinces can avoid an average of 11.8%, 33.7%, and 53.9% of annual WHL if achieving the 1.5°C target, which is equivalent to avoiding the losses of 0.1%, 0.6%, and 1.4% of annual GDP in China, respectively.

The research provides robust evidence for policymakers to understand the severity of future heat-related labor losses due to [climate change](#) in China. Stringent mitigation policies coupled with effective adaptation measures are therefore needed for protecting [occupational health](#) and work capacity in China. Each province should tailor occupational health protection measures to their circumstances. In addition, the findings are important for other developing countries with similar climate and

demographic characteristics to China.

**More information:** Liangliang Cheng et al, Projecting future labor losses due to heat stress in China under climate change scenarios, *Science Bulletin* (2023). [DOI: 10.1016/j.scib.2023.09.044](https://doi.org/10.1016/j.scib.2023.09.044)

Provided by Science China Press

Citation: Future labor losses due to heat stress in China under climate change scenarios (2023, December 29) retrieved 27 April 2024 from <https://phys.org/news/2023-12-future-labor-losses-due-stress.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.