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The Direct Impact of Climate Change on Regional Labor Productivity

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ABSTRACT

Global climate change will increase outdoor and indoor heat loads, and may impair health and productivity for millions of working people. This study applies physiological evidence about effects of heat, climate guidelines for safe work environments, climate modeling, and global distributions of working populations to estimate the impact of 2 climate scenarios on future labor productivity. In most regions, climate change will decrease labor productivity, under the simple assumption of no specific adaptation. By the 2080s, the greatest absolute losses of population-based labor work capacity (in the range 11% to 27%) are seen under the A2 scenario in Southeast Asia, Andean and Central America, and the Caribbean. Increased occupational heat exposure due to climate change may significantly impact on labor productivity and costs unless preventive measures are implemented. Workers may need to work longer hours, or

more workers may be required, to achieve the same output and there will be economic costs of lost production and/or occupational health interventions against heat exposures.

KEYWORDS:

climate change | heat | labor productivity

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Temperature
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