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HEAT STRESS MAY IMPACT OVER 1.2 BILLION PEOPLE ANNUALLY BY 2100: STUDY

Relevant for: Developmental Issues | Topic: Health & Sanitation and related issues

Heat stress: High temperatures may damage the brain and other vital organs. | Photo Credit: PraewBlackWhile

Stress from extreme heat and humidity will annually impact areas which are home to about 1.2 billion people worldwide by 2100, assuming current greenhouse gas emissions, according to a study.

This is more than four times the number of people affected today, and more than 12 times the number who would have been affected without industrial era global warming, said researchers from Rutgers University-New Brunswick in the US.

Rising global temperatures are increasing exposure to heat stress, which harms human health, agriculture, the economy and the environment, according to the research published in the journal *Environmental Research Letters.*

Most climate studies on projected heat stress have focused on heat extremes but not considered the role of humidity, another key driver, the researchers said.

“When we look at the risks of a warmer planet, we need to pay particular attention to combined extremes of heat and humidity, which are especially dangerous to human health,” said senior author Robert E Kopp, from Rutgers University-New Brunswick.

“Every bit of global warming makes hot, humid days more frequent and intense. In New York City, for example, the hottest, most humid day in a typical year already occurs about 11 times more frequently than it would have in the 19th century,” said lead author Dawei Li, a former post-doctoral associate at Rutgers, and now at the University of Massachusetts.

Heat stress is caused by the body’s inability to cool down properly through sweating. Body temperature can rise rapidly, and high temperatures may damage the brain and other vital organs.

Heat stress ranges from milder conditions like heat rash and heat cramps to heat exhaustion, the most common type.

The study looked at how combined extremes of heat and humidity increase on a warming Earth, using 40 climate simulations to get statistics on rare events.

It focused on a measure of heat stress that accounts for temperature, humidity and other environmental factors, including wind speed, sun angle and solar and infrared radiation.

Annual exposure to extreme heat and humidity in excess of safety guidelines is projected to affect areas currently home to about 500 million people if the planet warms by 1.5 degrees Celsius, and nearly 800 million at 2 degrees Celsius, the researchers said.

The planet has already warmed by about 1.2 degrees above late 19th century levels, the said.

An estimated 1.2 billion people would be affected with 3 degrees Celsius of warming, as expected by the end of this century under current global policies, according to the study.

The WHO had to come up the name in line with the 2015 guidelines between the global agency, the World Organisation for Animal Health and the Food and Agriculture Organization.