Climate change linked to declines in labour productivity

February 25 2013, by Charis Palmer & Sunanda Creagh

Researchers say labour capacity is being reduced during hot months as a result of climate change. Credit: AAP/Kimimasa Mayama

Increases in humidity caused as a result of climate change are reducing labour productivity and it's only likely to get worse over time, argue researchers from America's National Oceanic and Atmospheric Administration.

In an article published today in the journal *Nature Climate Change*, the researchers say humidity is already reducing people's working capacity by 10% during peak months of heat stress around the world, and this is likely to grow to 20% by 2050.

The researchers say even if the global community commits to active mitigation of CO2, there will be increasing environmental limitations on labour capacity in the coming decades.

In the worst case scenario considered by the model, safe labour would be prohibited in large areas during peak months by 2200, including the entire US east of the Rockies.

"So far little has been done to estimate the impact of climate change on labour productivity," said David Peetz, professor of employment relations at Griffith University.

"The impact on productivity shown here, for people not experiencing the increasingly expensive benefits of air conditioning, is going to be quite stark, especially for people in warmer or mid-latitude climates," Professor Peetz said.

"It all points to the fact that it's much cheaper to deal with it now than to wait until some date in the future."

The researchers combined analysis of humidity and climate change projections with industrial and military guidelines for people's ability to work under heat stress.

Their projections do not include information about climate sensitivity, climate warming patterns, CO2 emissions, future population distributions and technological and societal change.

Nor did they consider labour productivity increases associated with a reduction in adverse conditions of extreme cold, snow and frozen soil.

Professor John Freebairn, an expert in environmental economics at the University of Melbourne's Department of Economics, said the paper provided "provides a detailed assessment of just one of the ways in which higher temperatures and humidity across the globe would bring additional costs to society."

"It is part of an extended exercise to assess the costs of climate change, and builds more details into the rough early estimates reported by Stern (2006), Garnaut (2008) and many others," he said.

More information: www.nature.com/nclimate/journa … ll/nclimate1827.html