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Future heat may be worse than some projections – US Academic

While awareness of heat stress is growing – along with its widening direct impact on humans throughout the world – it continues as a neglected aspect of global warming, according to a renowned United States academic.

Professor Matthew Huber from the Department of Earth, Atmospheric, and Planetary Sciences at Purdue University, Indiana, USA, said today that while much of the world committed, at least on paper, to trying to avoid more than 1.5°C of warming, emissions are not currently on track to achieve that goal.

Professor Huber is in Australia this month to present a keynote plenary address at the opening of the inaugural convention of the Australian Geoscience Council.

More than 1000 delegates will be in Adelaide next week for the five-day forum which will be held 14-18 October at the Adelaide Convention Centre during Earth Science Week.

Professor Huber said today:- "At this point we are making a decision between a world that warms by 3-4°C or eventually much more, 6°C or more.

"It is widely agreed that warmings of over 6 °C would have disastrous consequences for humankind, but it is very hard to pin down rigorously what the consequences would be, let alone quantify their costs"

Paleoclimatology, the study of past climates, provides key insights into worlds that are much warmer.

Professor Huber's position is that the mid-Miocene around 15 million years ago is a good analogy for this future, because temperatures were 5-8°C above modern and atmospheric carbon dioxide concentrations were 400-600 ppm, easily in the range of the next century.

"This paleoclimate analogy is disturbing because it suggests that the climate system, including temperature - but also glaciers and sea level - are highly sensitive to small carbon dioxide changes," he said.



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Adelaide Convention Centre

"My research demonstrates that when warming above 5°C occurs, substantial fractions of the tropical and subtropical nations suffer from heat stress that renders work outdoors difficult or impossible for large parts of the year.

"The lessons from the past are teaching us that the world heats up more than most climate models predict when carbon dioxide is added.

"We lose ice, sea levels rise, and it gets hot. Hot enough that heat stress becomes an even more serious issue than it is today, even for moderate emissions trajectories," Professor Huber said.

Professor Huber will address the opening Plenary session of the convention on Monday 15 October.

Other key areas of attention at the Australian Geoscience Council Convention (AGCC 2018) will be better balancing out the country's mining boom and bust cycles, the better management of our energy generation, feedstocks and energy security and promoting business and social growth opportunities across the undeveloped footprint of northern Australia.

The *Big Issues and Ideas* day on Tuesday October 16 is designed to highlight the fundamental role that Geoscience has as a major field of science throughout the Australasian-Pacific region.

For more information, visit www.agcc.org.au.

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