Temperature change in Sichuan

November 14 2017

Credit: British Antarctic Survey

The Sichuan basin is one of the most densely populated regions of China. Along with insufficient arable land and economic underdevelopments, this region is particularly vulnerable to climate-related stresses.

Improving the predictability of extreme temperatures over the Sichuan basin is important due to the profound implications of climate change on internal heating and cooling loads in the ever-expanding urban regions.

Using the coupled climate models from the CMIP5 exercise, we find that the Sichuan Basin will warm by 0.72°C per decade and by 2100 the central plains of the Sichuan basin will have increased by 4°C. The frequency of extreme months (where mean temperature exceeds 28°C) is shown to increase in the 21st Century at a faster rate compared to the 20th Century. Therefore, the frequency of more extreme heat waves across the Sichuan basin is projected to increase.

These findings will help provide guidance for future climate projections in further research which focuses on urban planning and design based on thermal comfort conditions in the Sichuan basin.

More information: Daniel Bannister et al. An Assessment of Recent and Future Temperature Change over the Sichuan Basin, China, Using CMIP5 Climate Models, *Journal of Climate* (2017). DOI: 10.1175/JCLI-D-16-0536.1

Provided by British Antarctic Survey