

Global warming will result in stronger and more frequent heatwaves in Southeast Asia

July 27 2021, by Li Yuan



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Scientists have been informing people that the frequency and intensity of extreme events will increase in the future with the increased global mean temperature.

The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) suggested that the increases in the seasonal

and annual mean temperature are expected to be more prominent in the tropics and subtropics than in mid-latitudes. It implies that Southeast Asia may suffer more from global warming than other regions of Asia. However, it is not clear how heatwaves in Southeast Asia will change under global warming.

Ph.D. student Dong Zizhen and Prof. Wang Lin from the Institute of Atmospheric Physics (IAP) of the Chinese Academy of Sciences gave the answer to the question. Their study was published in *Earth's Future*.

Based on the bias-corrected model outputs from the Community Earth System Model Large Ensemble project, they estimated the changes in Southeast Asian heatwaves under different global warming levels.

According to their study, the projected warmer future tends to be associated with more frequent heatwaves, longer heatwave duration, and higher extreme temperature in Southeast Asia. The changes in heatwave characteristics have distinct regional differences in response to [global warming](#) between the Maritime Continent and Indochina Peninsula due to the different heat content of lower atmospheric boundaries.

Wang Lin, the corresponding author of the work, warned, "The extreme heatwave event, such as the heatwave that happens only once-in-50-years and is rare in the current climate, will become more frequent in a warmer future, and may happen once a year in Southeast Asia."

More information: Zizhen Dong et al, Heatwaves in Southeast Asia and Their Changes in a Warmer World, *Earth's Future* (2021). [DOI: 10.1029/2021EF001992](https://doi.org/10.1029/2021EF001992)

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