



When will unusual heat waves become normal in a warming Africa?

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Africa is one of the most vulnerable continent to climate change. In the upcoming decades the occurrence of longer, hotter and more frequent heat waves could have a strong impact on mortality and crop production. Here, by applying the Heat Wave Magnitude Index daily (HWMId) to temperature reanalysis data, we quantify the magnitude and the spatial extent of the most extreme heat waves experienced in Africa between 1979 and July 2015. Our results show that all these events had lower magnitude and spatial extent than the most unusual heat wave of the present era that occurred in Russia in 2010. The latter is compared with regional climate projections suggesting that in Africa an event of similar magnitude will become normal by 2040 under the most severe IPCC AR5 scenario (i.e. RCP8.5), when annual mean temperatures are projected to be 1.5°C warmer compared to current climate.