



## **Does extreme precipitation intensity depend on the emissions scenario?**

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The rate of increase of global-mean precipitation per degree surface temperature increase differs for greenhouse gas and aerosol forcings, and therefore depends on the change in composition of the emissions scenario used to drive climate model simulations for the remainder of the century. We investigate whether or not this is also the case for extreme precipitation simulated by a multi-model ensemble driven by four realistic emissions scenarios. In most models, the rate of increase of maximum annual daily rainfall per degree global warming in the multi-model ensemble is statistically indistinguishable across the four scenarios, whether this extreme precipitation is calculated globally, over all land, or over extra-tropical land. These results indicate that, in most models, extreme precipitation depends on the total amount of warming and does not depend on emissions scenario, in contrast to mean precipitation.