



## **A simple equation or regional climate change and associated uncertainty**

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Simple equations are developed to express regional climate changes for the 21<sup>st</sup> century and associated uncertainty in terms of the global temperature change (GTC) without a dependence on the underlying emission pathways. The equations are applied to regional temperature and precipitation changes over different regions of the world, and relevant parameters are calculated using the latest multi-model ensemble of global climate change simulations. Examples are also shown of how to use the equations to develop probability density functions (PDFs) of regional climate change based on PDFs of GTC. The main advantage of these equations is that they can be used to estimate regional changes from GTC obtained either from simple and intermediate complexity models or from target stabilization assumptions.