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Putting Climate Change on the Map: A Translation from Time to Space

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By increasing the concentrations of atmospheric greenhouses gases, man is changing the physical geography of planet Earth. This message is often given to the public in form of rather abstract numbers, such as changes in the annual mean surface temperature. Therefore, one of the difficulties to overcome when educating the public about climate change is to translate these abstract numbers into everyday experiences – a task that is not easy given the statistical and thereby abstract definition of the term 'climate' itself.

However, climate does not only vary with time, but also with space, and people generally have a better idea of what it would be like to live in another place, than to experience an annual mean temperature rise of e.g. 3 K.

We used the model calculations from the fourth assessment report of the Intergovernmental Panel on Climate Change to translate the projected temperature change into a change of location: Each point on a geographical map is shifted to the closest location that in the year 2000 has the annual mean temperature that the point is projected to have at some time in the future. With this method, it is possible to create a new kind of accessible and visually appealing illustration of climate change, answering the question: Where do I have to go today to experience tomorrow's climate? Similarly, it is possible to answer a related question: Where would I have to move if I want to continue living in today's climate?