



The impact of half-a-degree Celsius upon the spatial pattern of future sea-level change.

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It has been shown that the global thermal expansion of sea level and ocean dynamics are linearly related to global temperature change. On this basis one can estimate the difference in local sea-level change between a 1.5°C and 2.0°C world. The mitigation scenario RCP 2.6 shows an end-of-century global temperature range of 0.9 to 2.3°C (median 1.6°C). Additional sea-level components, such as mass changes in ice sheets, glaciers and land-water storage have unique spatial patterns that contribute to sea-level change and will be indirectly affected by global temperature change. We project local sea-level change for RCP 2.6 using sub-sets of models in the CMIP5 archive that follow different global temperature pathways. The method used to calculate local sea-level change is probabilistic and combines the normalised spatial patterns of sea-level components with global average projections of individual sea-level components.