



Early Benefits of Mitigation in Risk of Regional Climate Extremes

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Large differences in climate outcomes are projected over the coming century depending on whether greenhouse gas emissions continue on a business as usual path or are substantially reduced following an aggressive mitigation strategy.

However, it has previously been claimed that it will take many decades for there to be any significant difference between paths of aggressive mitigation and business as usual with the emergence of differences only seen towards the middle of the century.

Here we show that important differences in our exposure to risk of climate extremes in many land regions emerges much more quickly. Without substantial mitigation, in many regions of the world, extreme (one in 20-year) seasonal, regional near surface air temperatures are found to have become more than twice as likely within only 15 years (i.e. by 2030). Therefore our exposure to climate risk is reduced substantially and rapidly with aggressive mitigation. This demonstrates that the benefits of mitigation are realised rapidly and it is not necessary to wait until the middle of the century as has previously been claimed.