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[Climate Change: Bumpy flights ahead](#)

DOI: 10.1038/nclimate1866

Climate change may lead to bumpier transatlantic flights by the middle of the century, suggests work published online in *Nature Climate Change* this week. The study reports that clear-air turbulence is likely to change significantly with the doubling of carbon dioxide from pre-industrial levels, which is expected in the next 40 years

Paul Williams and Manoj Joshi use climate simulations to investigate changing conditions in the transatlantic flight corridor in response to carbon dioxide levels. Clear-air turbulence is linked to atmospheric jet streams, which are projected to strengthen with climate change. They calculate that at cruise altitudes in wintertime, there will be an increase of 10–40%

in the average strength of turbulence, and a 40–170% increase in the frequency of moderate-or-greater turbulence.

The authors also note that increased turbulence could also increase journey times, fuel consumption and emissions.

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