

Hurricanes could increase over western Europe as climate warms

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Damaging hurricanes are familiar along the North American east coast but are relatively rare in western Europe. That could change as Earth's climate warms over the next century, according to a new study. Western European coastal areas do occasionally experience hurricane force storms in the current climate, but these occur mainly in winter and are formed not as tropical cyclones but by the midlatitude atmospheric baroclinic instability, which is driven by the north-south atmospheric temperature gradient.

Currently, most hurricanes begin in the western tropical Atlantic, where sea surface temperatures often rise above the threshold needed for formation of cyclones; the eastern tropical Atlantic is not currently warm enough to generate cyclones.

However, using a high-resolution [global climate model](#), Haarsma et al. show that as [sea surface temperatures](#) in the Atlantic Ocean rise over the next century, the tropical cyclone breeding ground will extend northward and eastward. This will lead to the formation of more hurricanes that are on a path to hit western Europe. Although they will make a transition from a tropical to a hybrid storm, like Sandy, they will arrive there with exceptional strength.

The authors' simulations indicate that the number of potentially damaging hurricanes during the August through October season over western Europe could increase more than fourfold by the end of the century.

More information: More hurricanes to hit western Europe due to global warming, *Geophysical Research Letters*, [doi:10.1002/grl.50360](https://doi.org/10.1002/grl.50360), 2013 [onlinelibrary.wiley.com/doi/10 ... 2/grl.50360/abstract](https://onlinelibrary.wiley.com/doi/10.1002/grl.50360/abstract)

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