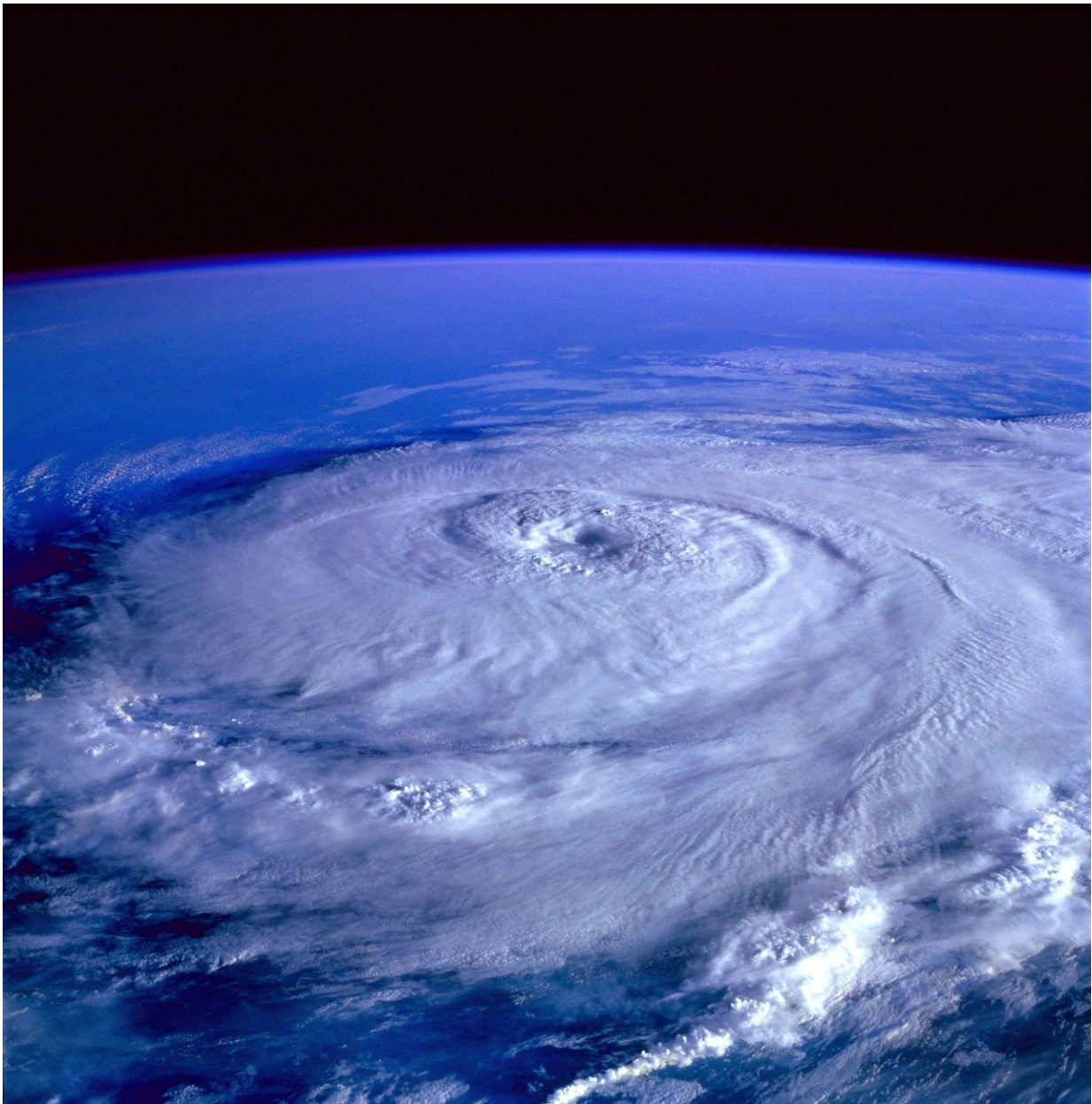


Powerful hurricanes get second wind in Europe

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Stronger hurricanes that are re-energized by jet stream winds are twice as likely to cross the Atlantic and wreak havoc in Europe than weaker ones, new research has found.

Atlantic hurricanes generate international attention because of the destruction they can cause across North America and the Caribbean. Just days ago, ex-hurricane Fiona impacted Canada as one of their strongest storms on record. While lesser-known, these cyclones can also wreak havoc in Europe.

The question of why some hurricanes make it to Europe as ex-hurricanes while others don't has been unclear. The scientists investigated this question by studying 180 ex-hurricanes over a 40-year period, finding that stronger hurricanes are far more likely to reach Europe, and that those encountering strong jet stream winds often re-intensify, helping them to move further east.

The study, led by the University of Reading and the National Center for Atmospheric Science and published today in the journal *Monthly Weather Review*, helps explain why ex-hurricanes impact Europe, which is particularly important as [warmer ocean temperatures](#) due to climate change are expected to make hurricanes stronger.

Elliott Sainsbury, Ph.D. researcher at the University of Reading who led the study, said, "Ex-hurricanes are fairly rare in Europe but can be deadly and destructive events, making it very important that we better understand why they arrive from across the ocean.

"Our research shows stronger hurricanes, and hurricanes that are re-energized by the jet stream over the Atlantic, are far more likely to hit Europe. They seemingly retain some memory of their strength in the tropics. We have now established this remarkably strong link with hurricane strength. As stronger hurricanes may become more frequent under climate change, we could also see more ex-hurricanes reaching Europe in the future. There are other factors to consider however, and more research into this question is needed."

Cyclones are common in Europe, but only around two ex-hurricanes reach the continent each year, typically between August and November. However, they can bring extremely strong winds and heavy rainfall, with some of the strongest storms on record across Europe being ex-hurricanes.

Ex-hurricane Ophelia set a national [wind](#) speed record and killed three people in Ireland in 2017, while ex-[hurricane](#) Katia caused more than £100m of damage in Scotland in 2011.

The study published today is the latest contribution by scientists at the University of Reading and the National Center for Atmospheric Science working to understand the risks posed by ex-hurricanes to Europe.

More information: *Monthly Weather Review* (2022). [DOI: 10.1175/MWR-D-22-0111.1](#)

Provided by University of Reading

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