

Dog bites may be more common on hot and polluted days, according to new study

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Dog bites may occur more frequently—by up to 11%—on days with hotter, sunnier weather, and when air pollution levels are higher, suggests a paper published in *Scientific Reports*. However, the authors caution that

more data and further research is needed to confirm these findings.

Previous research has documented that hotter weather and higher levels of air pollution can be associated with increased aggression in humans, Rhesus monkeys, rats, and mice. However, it is unclear whether dog aggression against humans also follows this trend.

Clas Linnman and colleagues examined data on [dog bites](#) in eight U.S. cities—Dallas, Houston, Baltimore, Baton Rouge, Chicago, Louisville, Los Angeles, and New York City—between 2009 and 2018. The data was either drawn from publicly available repositories recorded by animal control authorities or based on previous dog bite compilations.

This included 69,525 reported dog bites, an average of three bites per day over ten years. The authors examined the association between dog bite rates and daily levels of fine particulate matter (PM_{2.5}), ozone, and temperature. They also assessed UV and precipitation levels.

The authors report that dog bite incidence increased by 11% on days with higher UV levels, by 4% on days with higher temperatures, and by 3% on days with increased levels of ozone. In contrast, dog bite incidence slightly decreased (by 1%) on days with higher levels of rainfall. The authors reported no changes to dog bite incidence on days with higher levels of PM_{2.5}.

The authors caution that the dog bite records did not include information about other factors that can affect an individual dog's risk of biting, such as dog breed, sex, or whether the dog had been neutered or spayed. Additionally, no information about prior interactions between the dog and the [bite](#) victim, such as whether the individual was familiar with the dog, were available.

The authors conclude that these findings appear to expand the

association between higher temperatures and levels of air pollution and aggression across species to include dogs. However, further research is needed to confirm and explore this relationship.

More information: Clas Linnman, The risk of being bitten by a dog is higher on hot, sunny, and smoggy days, *Scientific Reports* (2023). [DOI: 10.1038/s41598-023-35115-6](https://doi.org/10.1038/s41598-023-35115-6).
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