

Cities are windier

Towns and cities are sometimes windier than the surrounding countryside, found researcher Arjan Droste. He calls this surprising phenomenon the wind island effect.

‘Average wind speeds can be higher in the city than in the countryside, even though the wind there can blow freely and isn’t blocked by buildings,’ says PhD candidate Arjan Droste. The effect is small and mainly occurs in the afternoon with a light wind and low buildings. The researcher calls this the wind island effect, analogous to the heat island effect. The effect is caused by the air in the atmospheric boundary layer just above the earth’s surface mixing with the air in the troposphere above that. ‘That increases the wind speed. The acceleration is different above a city than above the countryside because the boundary layer is thicker above cities,’ explains Droste. He says it is important to take the wind island effect into account when measuring air quality and the production from wind energy.

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