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Climate Change: Wind Farms May Affect Local Temperature

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Large wind farms in certain areas in the United States may affect local weather and climate, reports a paper published online in *Nature Climate Change* this week. This finding helps us to understand more about the impacts of wind farms and could be important for developing efficient adaptation and management strategies to ensure long-term sustainability of wind power.

Carbon dioxide produced by burning fossil fuels contributes greatly to global warming. As a result, many nations are moving towards cleaner sources of renewable energy such as wind turbines. To understand the potential impact of wind farms on weather and climate, a team led by Liming Zhou analysed satellite observations of regions around large wind farms in Texas for the period 2003–2011. The researchers found a night-time warming effect over wind farms of up to 0.72 °C per decade over the nine years period in which data was collected. Because the spatial pattern of warming mirrors the geographic distribution of wind turbines, they attribute the warming primarily to wind farms.

Although the warming effect reported in this study is local and is small compared to the strong background year-to-year land surface temperature change, the authors suggest that this work draws attention to an important scientific issue that requires further investigation.

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