# AI model Aardvark Weather promises revolution in forecasting



Scientists at the University of Cambridge have unveiled a significant advancement in weather forecasting with their newly developed AI model, dubbed Aardvark Weather. This innovative model promises to enhance the speed, accuracy, and accessibility of weather predictions dramatically. The research, conducted in collaboration with the Alan Turing Institute, Microsoft Research, and the European Centre for Medium-Range Weather Forecasts, was detailed in a study published in the journal Nature.

Currently, weather forecasts are generated through intricate multi-stage processes that can take hours to complete, relying on supercomputers and expert teams for their execution. In contrast, Aardvark is designed to operate on standard desktop computers, reducing forecasting time to mere seconds. “Aardvark reimagines current weather prediction methods, offering the potential to make weather forecasts faster, cheaper, more flexible and more accurate than ever before,” stated Richard Turner, a professor of machine learning at Cambridge, speaking to the Guardian.

The new model has shown promising results in preliminary tests, outperforming the United States' national GFS forecasting system using only 10 per cent of the data typically required. This substantial improvement has led researchers to suggest that it may herald a "revolution in forecasting." Moreover, Dr Scott Hosking, Director of Science and Innovation for Environment and Sustainability at the Alan Turing Institute, highlighted that the shift from supercomputers to desktop systems would allow for the democratization of weather forecasting, making advanced prediction capabilities available even in developing countries and regions with scarce data resources.

This transformative model not only allows for individual forecasts tailored to specific industries, such as agriculture or renewable energy, but it also holds the potential for broader applications. According to Dr Anna Allen, who led the research, Aardvark's capabilities could extend to improved predictions for natural disasters, including hurricanes, wildfires, and tornadoes, as well as providing insights into air quality and ocean dynamics.

Professionals already recognise the possible far-reaching implications of Aardvark. Amadou Gaye, a professor of climate physics at Senegal's Université Cheikh Anta Diop Dakar, noted that adaptation of the model to local contexts could revolutionise forecasting in regions like West Africa, improving predictions for severe weather patterns and assisting in agricultural planning.

As more countries and industries seek to leverage accurate weather forecasting, the research team is keen to deploy Aardvark in areas underserved by traditional global weather models, particularly in regions experiencing climatic challenges. While the AI model is still in its experimental stage, researchers predict that the transition to AI-driven forecasts could fundamentally alter the landscape of meteorology, moving towards quicker, more reliable forecasting accessible to a far broader range of users.

Despite its potential, there remain challenges ahead. Suzanne Gray, a professor of meteorology at Reading University, indicated that further development is needed for Aardvark to match the fine spatial resolution required for standard weather alerts issued by organisations such as the UK Met Office. Nevertheless, the current development of Aardvark positions it as a significant step forward in the evolution of weather prediction technology.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.miragenews.com/ai-driven-weather-tech-poised-to-revolutionize-1429712/> - This article supports the claim that Aardvark Weather is a new AI model developed by the University of Cambridge, which can deliver accurate forecasts faster and with less computing power. It highlights the collaboration with the Alan Turing Institute and Microsoft Research.
* <https://phys.org/news/2025-03-fully-ai-driven-weather-accurate.html> - This article corroborates the development of Aardvark Weather as a fully AI-driven system that outperforms traditional forecasting methods using less data. It also mentions its potential for broader applications beyond weather forecasting.
* <https://www.nature.com/> - This is the journal where the study on Aardvark Weather was published, supporting the scientific basis of the model's development and its potential to revolutionize weather forecasting.
* <https://www.turing.ac.uk/> - The Alan Turing Institute's involvement in the development of Aardvark Weather is highlighted here, emphasizing its role in advancing AI-driven weather forecasting.
* <https://www.ecmwf.int/> - The European Centre for Medium-Range Weather Forecasts' collaboration with the Aardvark project is noted here, underscoring the model's integration with existing weather forecasting systems.
* <https://www.cam.ac.uk/> - This is the official website of the University of Cambridge, where the Aardvark Weather model was developed. It supports the academic and research context of the project.
* <https://www.independent.co.uk/tech/ai-weather-forecast-aardvark-cambridge-b2717122.html> - Please view link - unable to able to access data