

Radical new theory suggests Earth's magnetism may be linked to movement of ocean currents

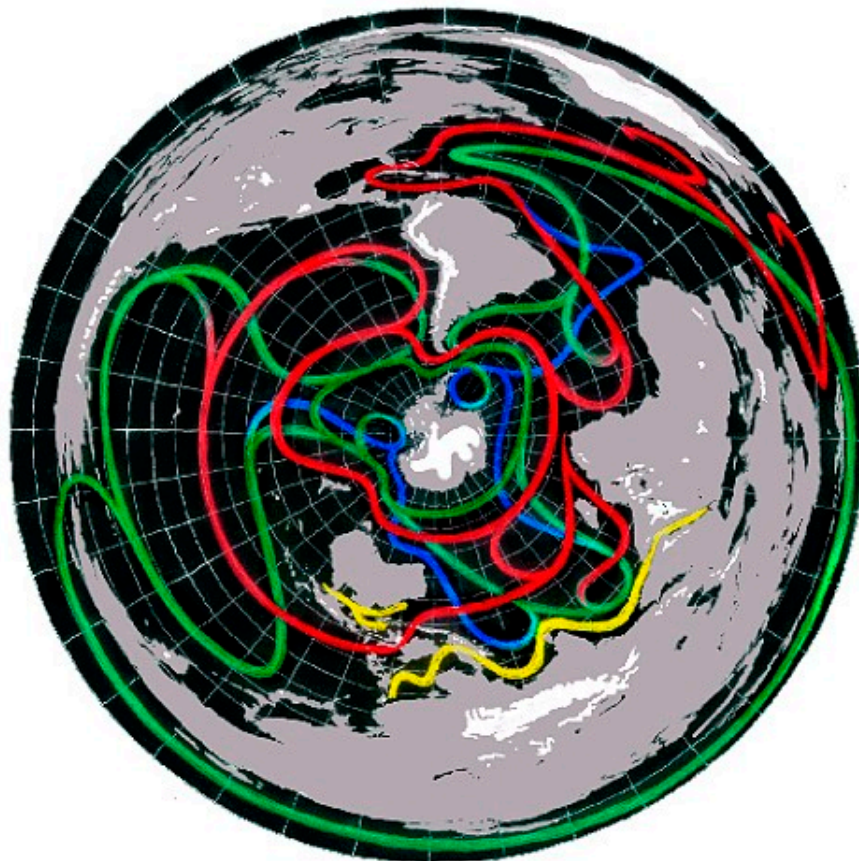
By [Daily Mail Reporter](#)

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New research suggests that Earth's magnetic field could be produced by ocean currents rather than molten metals swirling around its core as was previously thought.

The controversial new claims, published this week, suggest that the movements of volumes of salt water around the world have been seriously underestimated by scientists as a source of magnetism. The research could revolutionise geophysics, the study of the Earth's physical properties and behaviour, in which the idea that magnetism originates in a molten core is a central tenet.



Radical new idea: Research suggests that Earth's magnetism may be linked to the movement of ocean currents

“Everyone accepted this, but in reality there has never been any proof,” said Gregory Ryskin, associate professor of chemical and biological engineering at Northwestern University in Illinois. “It is just an idea we have accepted for a long time without questioning it enough.”

His research suggests that Earth's magnetism is instead linked to ocean movements.

The salt in seawater allows it to conduct electricity, meaning it generates electrical and magnetic fields as it moves.

The findings, published by Britain's Institute of Physics's New Journal of Physics, will no doubt cause a fierce scientific debate.

Existing theories explain Earth's magnetism by suggesting that the centre of the planet comprises a white-hot solid iron ball about 1,500 miles in diameter, surrounded by an outer shell of liquid metal a further 1,400 miles thick.