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Magnetic north pole drifting fast

The Earth's north magnetic pole is drifting away from North America so fast that it could end up in Siberia within 50 years, scientists have said.

The shift could mean that Alaska will lose its northern lights, or auroras, which might then be more visible in areas of Siberia and Europe.



Alaska could lose its northern lights, scientists say

The magnetic poles are different from geographic poles, the surface points marking the axis of Earth's rotation.

Magnetic poles are known to migrate and, occasionally, swap places.

"This may be part of a normal oscillation and it will eventually migrate back toward Canada," Joseph Stoner, a palaeomagnetist at Oregon State University, told a meeting of the American Geophysical Union (AGU) in San Francisco.

Wandering poles

Previous studies have shown that the strength of the Earth's magnetic shield has decreased 10% over the past 150 years.

During the same period, the north magnetic pole wandered about 1,100km (685 miles) into the Arctic, according to the new analysis.

The rate of the magnetic pole's movement has increased in the last century compared to fairly steady movement in the previous four centuries, the Oregon researchers said.

The Oregon researchers examined the sediment record from several Arctic lakes. Since the sediments record the Earth's magnetic field at the time, scientists used carbon dating to track changes in the magnetic field.

They found that the north magnetic field shifted significantly in the last thousand years. It generally migrated between northern Canada and Siberia, but has occasionally moved in other directions.

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Rate of change

At the present rate, the north magnetic pole could swing out of northern Canada into Siberia.

If that happens, Alaska could lose its northern lights, or auroras, which occur when charged particles streaming away from the sun collide with gases in the ionosphere, causing them to glow.

The north magnetic pole was first discovered in 1831 and when it was revisited in 1904, explorers found it had moved by 50km (31 miles).

For centuries, navigators using compasses had to learn to deal with the difference between magnetic and geographic north. A compass needle points to the north magnetic pole, not the geographic North Pole.

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