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## Scientists find hole in Earth's magnetic field

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LOS ANGELES (AP) — Recent satellite observations have revealed the largest breach yet seen in the magnetic field that protects Earth from most of the sun's violent blasts, researchers reported Tuesday. The discovery was made last summer by Themis, a fleet of five small NASA satellites.

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Scientists have long known that the Earth's magnetic field, which guards against severe space weather, is similar to a drafty old house that sometimes lets in violent eruptions of charged particles from the sun. Such a breach can cause brilliant auroras or disrupt satellite and ground communications.

Observations from Themis show the Earth's magnetic field occasionally develops two cracks, allowing solar wind — a stream of charged particles spewing from the sun at 1 million mph — to penetrate the Earth's upper atmosphere.

Last summer, Themis calculated a layer of solar particles to be at least 4,000 miles thick in the outermost part of the Earth's magnetosphere, the largest tear of the protective shield found so far.

"It was growing rather fast," Themis scientist Marit Oieroset of the University of California, Berkeley told an American Geophysical Union meeting in San Francisco.

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Such breaches are temporary, and the one observed last year lasted about an hour, Oieroset said.

Solar flares are a potential danger to astronauts in orbit but generally are not a risk to people on the surface of the Earth.

The research was funded by NASA and the National Science Foundation.

Scientists initially believed the greatest solar breach occurred when the Earth's and sun's magnetic fields are pointed in opposite directions. But data from Themis found the opposite to be true. Twenty times more solar wind passed into the Earth's protective shield when the magnetic fields were aligned, Oieroset said.

The Themis results could have bearing on how scientists predict the severity of solar storms and their effects on power grids, airline and military communications and satellite signals.

The Themis satellites were launched to find the source of brief powerful geomagnetic disturbances in the Earth's atmosphere.

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**FIFTH HORSEMAN** wrote: 8h 52m ago

It has happened before and will happen again and there is nothing to do about it. If IT worries you, commit suicide. The earth does not care about us.

BLESSED BE THE BOMB AND ALL ITS WORKS

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**Marduke** wrote: 15h ago

The simple answer is NO, absolutely nothing we do on the Earth's surface is remotely felt by even the mantle, let alone the core. So unless someone has been detonating 1+gigaton subterranean nuclear tests 2000 miles below the Earth's surface.....

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**Morpho** wrote: 15h 24m ago

The Mick wrote: 22h 16m ago

Penywigeon wrote: 1h 30m ago

"Actually I wouldn't doubt the fear to be related to what man is doing to the planet. Just because you don't see the web of connections between everything on this world doesn't mean the rest of us are blind."

-----  
Not blind. Just dumb.

=====

Agreed. Those claiming they're not blind might benefit from reading about the relationship between the Earth's magnetic field and the metals in the Earth's molten core. What man is doing on the planet isn't affecting things a few thousand miles below the surface.

-----

Okay, so how would global warming effect the inner core of this planet? Isn't it possible (although very, very slim) that the increased heat would transfer eventually to the core (or trap some of it there) and allow it to extend the molten effect closer to the surface? If the molten core were even slightly larger would not the magnetic fields potentially change?

My original comments were meant to spark debate and discussion. I did not expect personal attacks. I don't claim to know everything, or even a whole lot, but my mind does like to wander into subjects that are off-center just for the exercise. There is a lot more interconnectedness than we would like to believe.

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**Bemiller** wrote: 17h 8m ago

BTW this was found by NASA ... you know that organization that the welfare crowd LOVES to hate ... the only Government organization that has ever generated more taxes in spin offs (and jobs) than they have spent ...

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**Bemiller** wrote: 17h 11m ago

I am always amazed by those (obviously lacking in intellect) who WANT to blame everything on human folly and especially Pres Bush ...

Hello ... it is called magnetic flux ... not gravitational ... [gravity is NOT affected by this] and it is due ONLY to the interaction between the magnetic fields of the earth and the sun ... NOT what we humans do ... sigh ... it has happened many times before and will happen many times in the future ... regardless of any "save the earth" rhetoric ...

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**ChemE** wrote: 17h 36m ago

roy norton wrote: 15h 29m ago

If the pole reversal happens in our lifetime it could cause a temporary loss of gravity everything floats up, up, after the reversal is complete everything crashes down to earth. Only those with wings survive. Sorry about

-----

A pole reversal would not cause a loss of gravity. There is no evidence for extinctions during previous pole reversals.

For a loss of gravity the earth would have to lose mass, and if that happens I doubt we will be needing gravity anyway.

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**old yankee** wrote: 17h 39m ago

must be right over Washington all the hot air going up

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**krell44** wrote: 20h 23m ago

roy norton - your comments all sounded good until you got to reducing nuclear energy. This is another good source of energy ...just always the radiation thing that we fear....with no real reason...lets see how many people died mining coal.....and the pollution from coal fired power plants.....

We need to advance the breeder reactor to take care of the spent fuel rods.....forever the storage problem

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**Joe Redfeather** wrote: 1d 6h ago

I feel that this is very high priority I am glad we have brilliant scientist ontop of this occurance. All we can do is try to make the earth better today than it was yesterday!

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