OBSERVER REVIEW

MAY 2025

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MAY

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Between 1985 and 2014, something unexpected happened at the bottom of the world: sea ice surrounding Antarctica didn't shrink—it grew.

MARS UNEXPECTED LIQUID CORE

For decades, Mars has baffled scientists with a puzzling planetary quirk: its magnetic imprint, a ghostly relic of a long-dead field, is largely concentrated in the southern hemisphere.

FEATURED ARTICLES

AND MORE!

ARTICLE REFERENCED:
DETECTION OF TWO ANOMALIES BEHIND THE EASTERN FACE OF THE MENKAURE PYRAMID USING A COMBINATION OF NON-DESTRUCTIVE TESTING TECHNIQUES

BEHIND THE PYRAMID WALLS

BY: BAILEY

FOUR RECENT STUDIES OFFER INSIGHT INTO THE ONGOING COLLAPSE OF THE OCEAN HEAT TRANSPORT AND CIRCULATION.

For over 4,000 years, Egypt's pyramids have stood as silent sentinels of a long-lost world. But even today, they continue to whisper new secrets. The Menkaure Pyramid—the smallest of the three great pyramids of Giza—is now at the center of a groundbreaking discovery that may change our understanding of its construction.

In a recent scientific campaign, researchers used a trio of cutting-edge scanning technologies to peer beneath the surface of the pyramid's Eastern face. Their goal: to investigate a long-standing mystery—could there be a second hidden entrance behind the polished granite blocks on this side of the pyramid?

(A) the Northern face of the Menkaure Pyramid

(B) a close-up view of the main entrance

(C) the polished part of the Eastern face (subject of interest in this study).

Each method works differently. ERT sends electrical currents through stone to detect changes in resistivity—air-filled voids show up clearly. GPR bounces radar waves off underground structures to build images of what lies beneath. UST uses sound waves to detect changes in density and internal features like cracks or gaps.

By combining all three datasets into a single composite image using Image Fusion, the team gained a much clearer picture of what was hiding behind the polished granite.

The scans revealed two distinct anomalies—areas that differed significantly from the surrounding stone. Both appear to be air-filled spaces just behind the outer granite casing. Here's what the researchers found:

ANOMALY A1 IS LOCATED BEHIND A UNIQUE TRAPEZOID-SHAPED GRANITE BLOCK. IT MEASURES ABOUT 1.5 METERS BY 1 METER AND BEGINS ROUGHLY 1.4 METERS BENEATH THE SURFACE.

ANOMALY A2 LIES ABOVE AND TO THE LEFT OF A1. SMALLER IN SIZE, IT MEASURES ABOUT 0.9 BY 0.7 METERS AND BEGINS AT A SHALLOWER DEPTH OF 1.1 METERS.

BOTH FEATURES WERE CONFIRMED BY ALL THREE SCANNING TECHNIQUES AND SUPPORTED BY DETAILED SIMULATIONS, WHICH TESTED HOW AIR GAPS AND STONE TYPES WOULD BEHAVE IN SUCH SCANS.

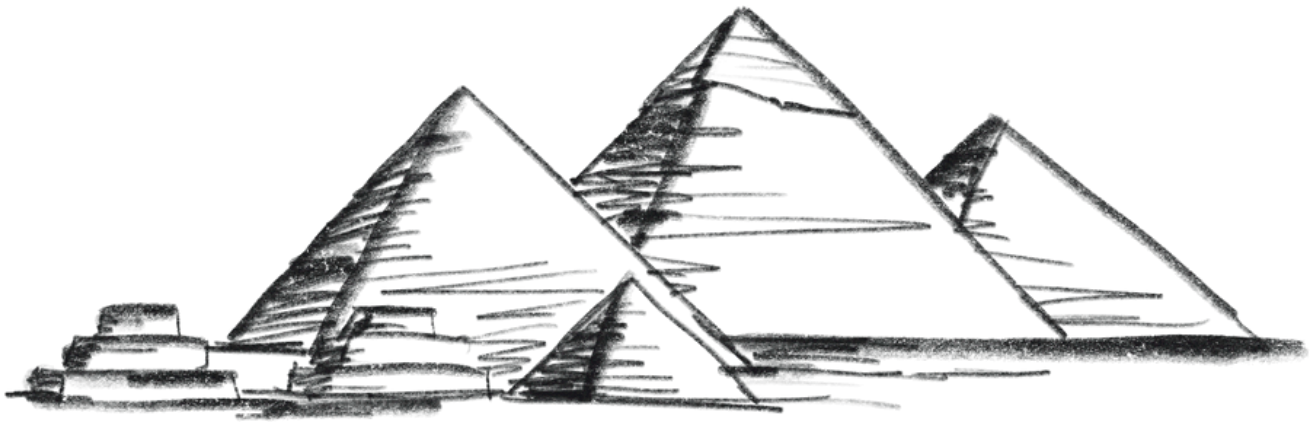
THE CONCLUSION?

These are not just cracks or odd stones. They're probably intentional voids or hidden spaces—and they align suspiciously well with the hypothesis of an additional entrance.

While the scans strongly suggest the presence of voids, there's still one big unknown: how deep do they go?

Current methods couldn't see beyond 3.5 meters into the stone, and the full extent of the anomalies remains a mystery.

Maybe they needed to take cover from something?



SOUTHERN ICE IS GROWING

BY: BAILEY

ARTICLE REFERENCED:
BIASES IN CLIMATE MODEL GLOBAL WARMING TRENDS RELATED TO DEFICIENCIES IN SOUTHERN OCEAN SEA ICE EVOLUTION OVER RECENT DECADES

Between 1985 and 2014, something unexpected happened at the bottom of the world: sea ice surrounding Antarctica didn't shrink—it grew. This expansion of Southern Ocean sea ice occurred even as the planet warmed at nearly 0.2°C per decade. But here's the catch: not a single major climate model predicted it - something we could have guessed.

In a newly published study, researchers found that this discrepancy between climate model projections and real-world satellite observations could be skewing how we estimate global temperature changes. Specifically, models that simulate a decline in Southern Ocean sea ice end up overestimating how much the Earth has warmed—by as much as 0.06°C over the 30-year period.

To see how big of an impact this mismatch made, scientists ran two sets of simulations.

COUPLED MODELS THAT INCLUDE BOTH OCEAN AND ATMOSPHERE BUT USE PREDICTED SEA ICE TRENDS (WHICH WERE INCORRECT).

PRESCRIBED MODELS (CALLED AMIP-PIFORCING) THAT USE ACTUAL OBSERVED SEA SURFACE TEMPERATURES AND SEA ICE DATA.

The result? Models using real-world data showed a negative surface albedo feedback over the Southern Ocean—cooling things down—while models with incorrect data showed a positive feedback—heating things up.

By isolating this difference, the researchers estimated that…The feedback parameter in the Southern Ocean should have been 12% to 29% more negative.

THIS WOULD HAVE LED TO GLOBAL TEMPERATURES BEING 0.01°C TO 0.06°C COOLER OVER THE 30-YEAR SPAN.

MARS UNEXPECTED LIQUID CORE

BY: BAILEY

ARTICLE REFERENCED: HTTPS://WWW.NATURE.COM/ARTICLES/S41612-025-00971-8 HTTPS://WWW.FRONTIERSIN.ORG/JOURNALS/MARINE-SCIENCE/ARTICLES/10.3389/FMARS.2025.1556480/FULL

For decades, Mars has baffled scientists with a puzzling planetary quirk: its magnetic imprint, a ghostly relic of a long-dead field, is largely concentrated in the southern hemisphere. Unlike Earth's global magnetic field, Mars' is stubbornly one-sided — and until now, no one could explain why.

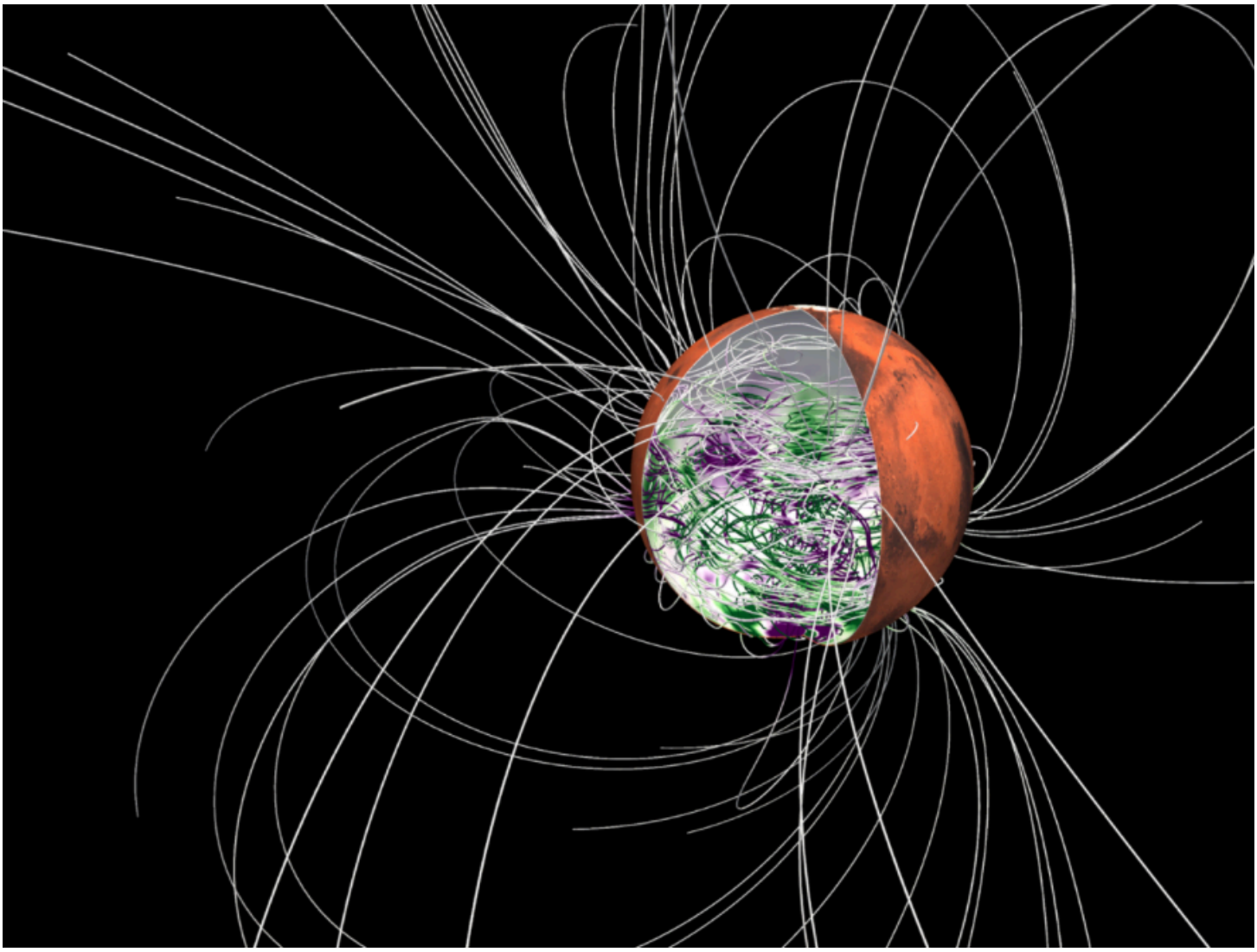
But a groundbreaking new study from the University of Texas Institute for Geophysics (UTIG) may have just cracked the case. The answer lies not on the planet's battered surface, but deep within its heart — a heart that, contrary to previous assumptions, may never have solidified.

In a paper published in Geophysical Research Letters, researchers used high-powered computer simulations to test a provocative idea: what if Mars' core has always been completely molten? The results were striking. When simulated with a fully liquid core and a modest temperature difference between its northern and southern mantles, Mars naturally developed a magnetic field concentrated entirely in the southern hemisphere.

"We had no idea if it was going to explain the magnetic field," said co-author Sabine Stanley, a planetary physicist at Johns Hopkins University. "So it's exciting to see that we can create a hemispheric magnetic field with an interior structure that matches what InSight told us Mars' interior is like today."

INSIGHT LANDER CONNECTION

NASA's InSight lander, which began its mission on Mars in 2018, played a critical role in inspiring the study. Seismic data collected by InSight indicated that Mars' core is composed of lighter elements than expected — and likely still molten. That crucial finding led UTIG's Chi Yan and colleagues to ask what such an internal structure might have meant for Mars' long-lost magnetic dynamo.



Computer simulation of a one-sided magnetic field on early Mars based on data from a study led by the University of Texas Institute for Geophysics.

The study could explain the unusual magnetic imprint found on

Mars today. Credit: Ankit Barik/Johns Hopkins University

POWERED BY DYNAMOS

Magnetic fields on planets are typically powered by dynamos — self-sustaining systems of swirling molten metal in the core that generate magnetic energy. On Earth, this process is stabilized and enhanced by the presence of a solid inner core, surrounded by a liquid outer layer of iron.

THE IMPORTANCE

But Mars, the study suggests, may never have formed a solid inner core. In their simulations, the researchers introduced a temperature imbalance — with the northern hemisphere's mantle slightly hotter than the southern — and watched as heat escaped preferentially through the south. That thermal imbalance channeled convection in the molten core, activating a southern-only dynamo and producing a sharply asymmetrical magnetic field.

“The logic here is that with no solid inner core, it’s much easier to produce hemispheric magnetic fields,” said lead author Chi Yan. “That could have implications for Mars’ ancient dynamo and possibly how long it was able to sustain an atmosphere.”

Mars’ magnetic field once played a crucial role in shielding its thick atmosphere from the solar wind. Its disappearance — and the collapse of that atmosphere — helped transform Mars from a potentially habitable world to the dry, frigid desert we know today.

Previous explanations for the magnetic asymmetry focused on surface-level impacts, such as giant asteroids that may have erased northern crustal magnetization. But UTIG’s findings offer an elegant internal explanation — one that aligns with InSight’s seismic discoveries and reshapes our understanding of planetary evolution.

“This is a compelling alternative to the impact theory,” said Doug Hemingway, a UTIG planetary scientist who was not involved in the study. “It gives us a dynamic view of how Mars evolved and why it looks the way it does today.”

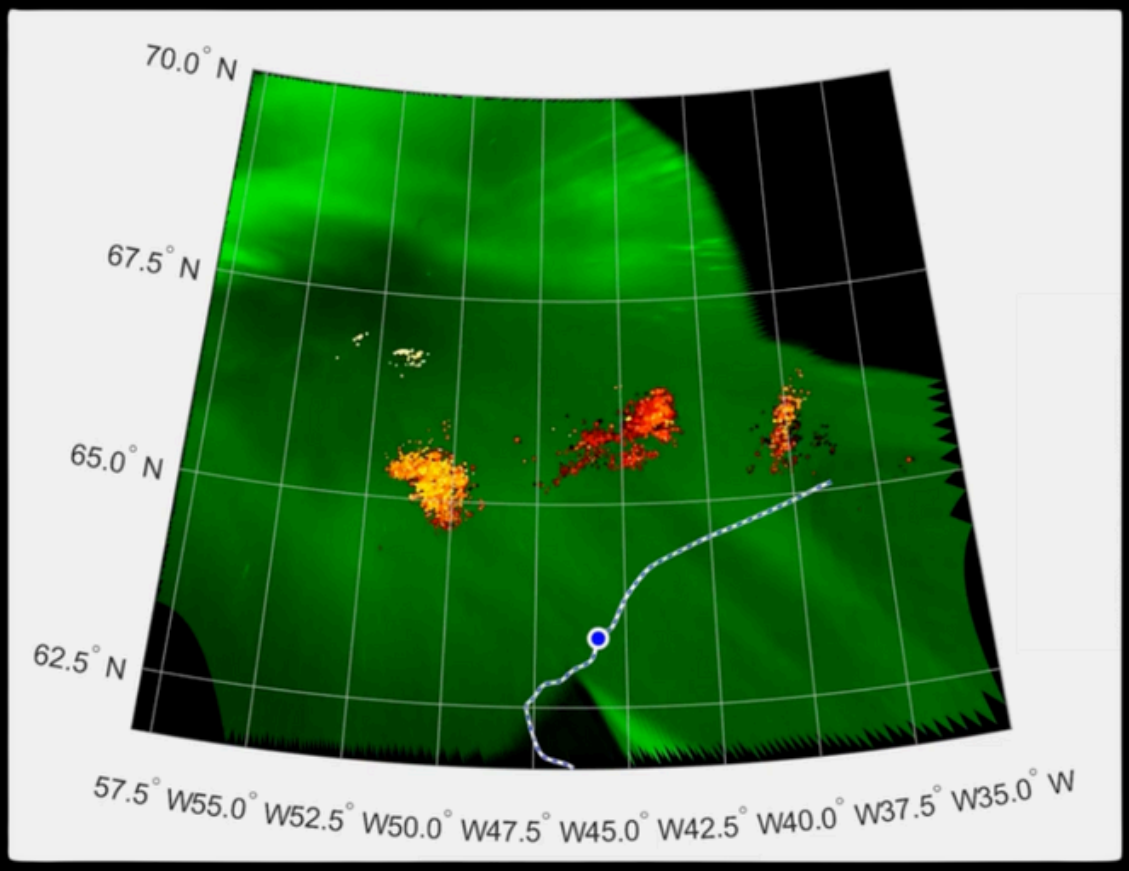
This provides vital clues about the Red Planet’s climate history and being able to track it’s changes with the galactic sheet incoming.

RAPID ELECTRIC SOLAR FORCING

BY; BEN DAVIDSON

ARTICLE REFERENCED:
ATMOSPHERIC TURBULENCE TRIGGERED BY EVENTS 20,000 KM UP

A new study has found a potential connection between turbulence in the Earth's ionosphere (90-150 km above the surface) and events in the magnetosphere, 20,000 km away. Researchers used data from the Arase satellite and the ICEBEAR radar to observe this link, noting electric-field oscillations (0.1–20 kHz) from wave-particle interactions. A significant observation on May 12, 2021, showed a 12-minute radar echo cluster during auroral activity, suggesting these interactions trigger ionospheric turbulence. This could improve predictions for space weather, potentially aiding in forecasting disruptions to radio communications, similar to weather forecasting.



Ionospheric turbulence is signified by radar reflections, or “echoes” (colored dots), detected by ICEBEAR’s radar receiver site near Saskatoon, Canada. During these events, cameras from another facility near Calgary turned on and recorded auroral activity (green, starting partway through the video). The blue–white dashed path depicts the trajectory of the satellite Arase, which was in the magnetosphere.

But there is so much more in play here: This fortifies the concept that solar wind disruptions of the earth's magnetic field impact the layers below, and the ionospheric layer here is the ceiling of the global electric circuit. This is a direct line of evidence for the 100s of papers on electrodynamic solar wind forcing of weather events (which remain ignored in climate models) and shows just how connected our atmosphere actually is to the sun.

THE IMPORTANCE

This forcing was also noted to be very rapid. Most climate models have a 1 to 11 year lag for various UV irradiance forcings, but the "ignored" studies often show rapid forcing on the scale of minutes. This study found dramatic impacts taking place over just a short period of time on one day. I checked - this impact, not just in general, but THIS specific event on May 12, 2025 is currently attributed to human pollution in all climate models.

The Ionospheric Continuous-wave E-region Bistatic Experimental Auroral Radar (ICEBEAR) transmitter site near Leader, Canada, emits radio waves for the purpose of detecting knots of turbulent plasma in the ionosphere. The reflected waves are detected at a separate facility.

SOLAR FORCING OF WINDS

BY: BAILEY

ARTICLE REFERENCED:
MIDLATITUDE NEUTRAL WIND RESPONSE DURING THE MOTHER'S DAY SUPER-INTENSE GEOMAGNETIC STORM IN 2024 USING OBSERVATIONS FROM THE CHINESE MERIDIAN PROJECT

On May 10–13, 2024, Earth was rocked by the most powerful geomagnetic storm in two decades, dubbed the Mother's Day superstorm. Triggered by a series of fast coronal mass ejections (CMEs) from active region AR3664, this storm delivered an exceptional dose of solar energy into Earth's upper atmosphere, offering a rare opportunity to study how solar forcing shapes global wind patterns in the thermosphere. Scientists have for the first time directly measured midlatitude neutral wind responses in northern China—and the results underscore the profound influence of solar-driven geomagnetic activity on upper atmospheric dynamics.

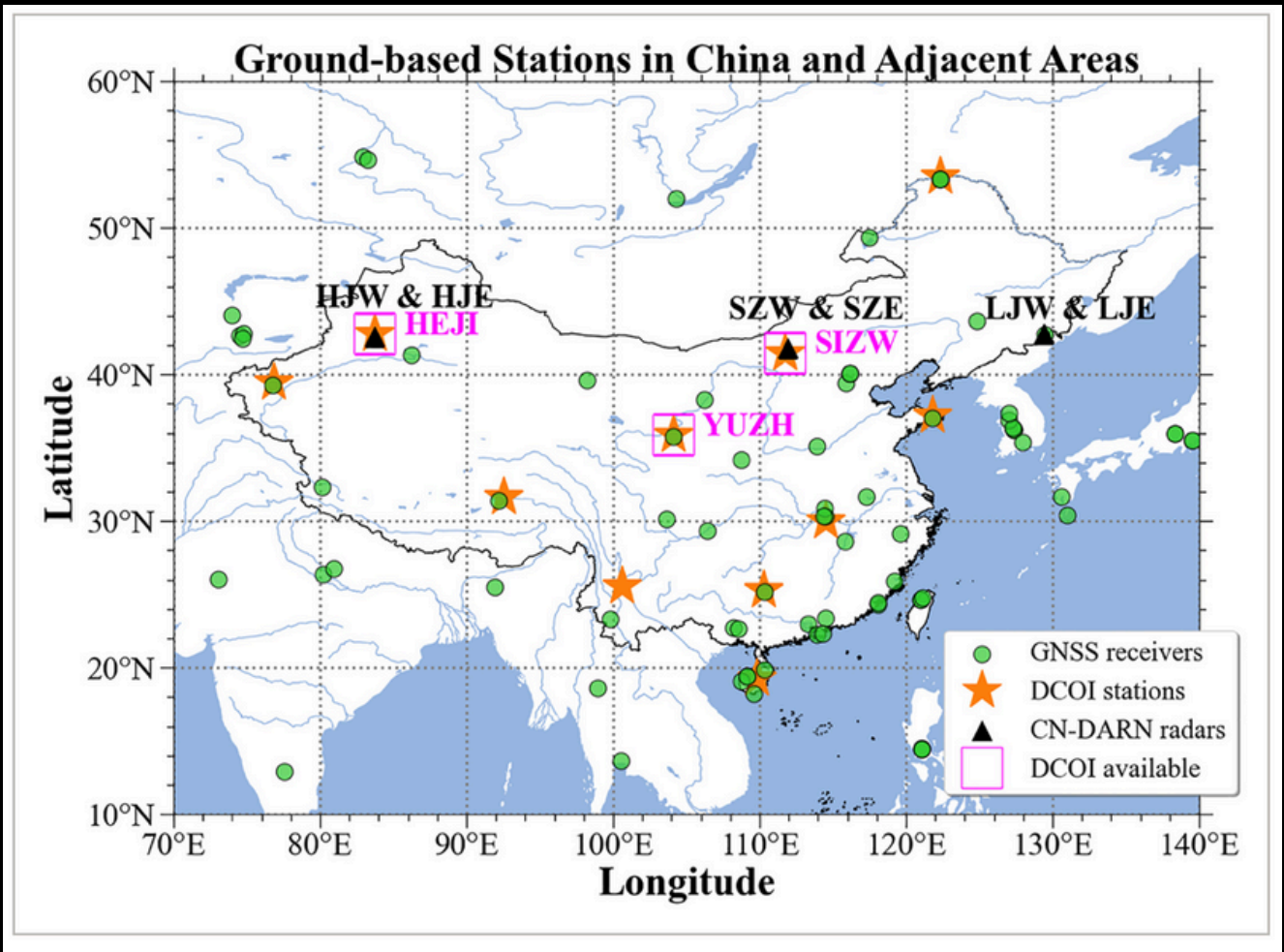
SOLAR WIND DURING THE STORM

During the Mother's Day storm, solar wind speeds soared above 1,000 km/s and the interplanetary magnetic field's southward component (Bz) plunged to −48 nT, setting the stage for extreme energy deposition into the magnetosphere-ionosphere-thermosphere (MIT) system. This injection of energy acted as a throttle for thermospheric winds.

Dual-Channel Optical Interferometers (DCOIs) stationed across China captured this dynamic response at 250 km altitude. Most strikingly, a strong equatorward wind of ~400 m/s emerged during the storm's main phase, particularly in northern China.

THIS MERIDIONAL SURGE, UNSEEN UNDER QUIET CONDITIONS, ALIGNS WITH THE CLASSIC CHAIN REACTION:

SOLAR WIND FORCING →
JOULE/AURORAL HEATING →
THERMOSPHERIC EXPANSION →
MASS AND MOMENTUM TRANSPORT VIA EQUATORWARD WINDS



Distributions of ground-based Dual-Channel Optical Interferometer (DOI) stations, Chinese Dual Auroral Radar Network (CN-DARN) radars, and Global Navigation Satellite System (GNSS) receivers in the Chinese Meridian Project. Orange stars, black triangles, and green circles represent the geographic locations of DCOI stations, CN-DARN radars, and GNSS stations, respectively. DCOI measures the neutral winds at 250 km using the detection wavelength of 630 nm during the Mother's Day super-intense storm, as marked by magenta squares.

This large-scale redistribution of heated, composition-altered air led to a notable ionospheric phenomenon: a “negative storm” marked by decreased Total Electron Content (TEC) over East Asia. The downwelling of molecular-rich, low O/N_2 air accelerated electron recombination, reducing ionization levels—a direct chemical consequence of wind-driven mass transport under solar forcing.

Alongside the meridional winds, zonal (eastward) winds also intensified during the storm. Observations revealed eastward winds exceeding 230 m/s in the post-midnight sector of northern China. These flows were largely driven by ion drag, a process where neutral atoms are pulled along by rapidly moving ions energized by expanding ionospheric convection patterns.

SOLAR WIND-MAGNETOSPHERE COUPLING

As solar wind-magnetosphere coupling intensified, the auroral oval and associated convection expanded equatorward to ~43° MLAT. In this expanded region, subauroral polarization streams (SAPS)—fast sunward ion flows—likely transferred momentum to the neutral atmosphere, forcing strong eastward winds in the thermosphere.

TRAVELING ATMOSPHERIC DISTURBANCES (TADS)

Another solar-forced effect was the emergence of Traveling Atmospheric Disturbances (TADs)—wave-like oscillations in the wind field. These disturbances, triggered by localized heating and pressure anomalies from solar energy deposition, were clearly observed by multiple DCOI stations. Both meridional and zonal wind measurements showed repeating patterns consistent with propagating atmospheric gravity waves, offering new evidence of how geomagnetic storms modulate upper atmospheric wave dynamics.

WHAT HAPPENED AT THE END OF THE STORM?

As the geomagnetic storm transitioned into its recovery phase, wind dynamics also evolved. Meridional winds weakened, while zonal winds remained strong but reversed direction in some areas. Interestingly, TEC maps showed a high-density electron cluster shifting westward across China—possibly driven by enhanced O/N_2 ratios in the thermosphere. These chemical changes, also seeded by prior solar-driven upwelling, reveal how long the atmosphere continues to respond to initial solar forcing well after the energy peak.

London, Ontario, Canada: Photo taken from Observers of the aurora borealis illuminating the night sky during the geomagnetic storm on May 10, 2024.

SOLAR FORCING OF THE POLAR VORTEX

ARTICLE REFERENCED:
IMPACT OF SOLAR PROTON EVENTS ON THE STRATOSPHERIC POLAR VORTEX IN THE NORTHERN HEMISPHERE: A QUANTITATIVE ANALYSIS

BY: BAILEY

The stratospheric polar vortex (SPV) is one of the most powerful engines of winter weather in the Northern Hemisphere. This swirling mass of cold air, locked over the Arctic during the colder months, influences everything from jet stream positioning to severe cold outbreaks in mid-latitude regions.

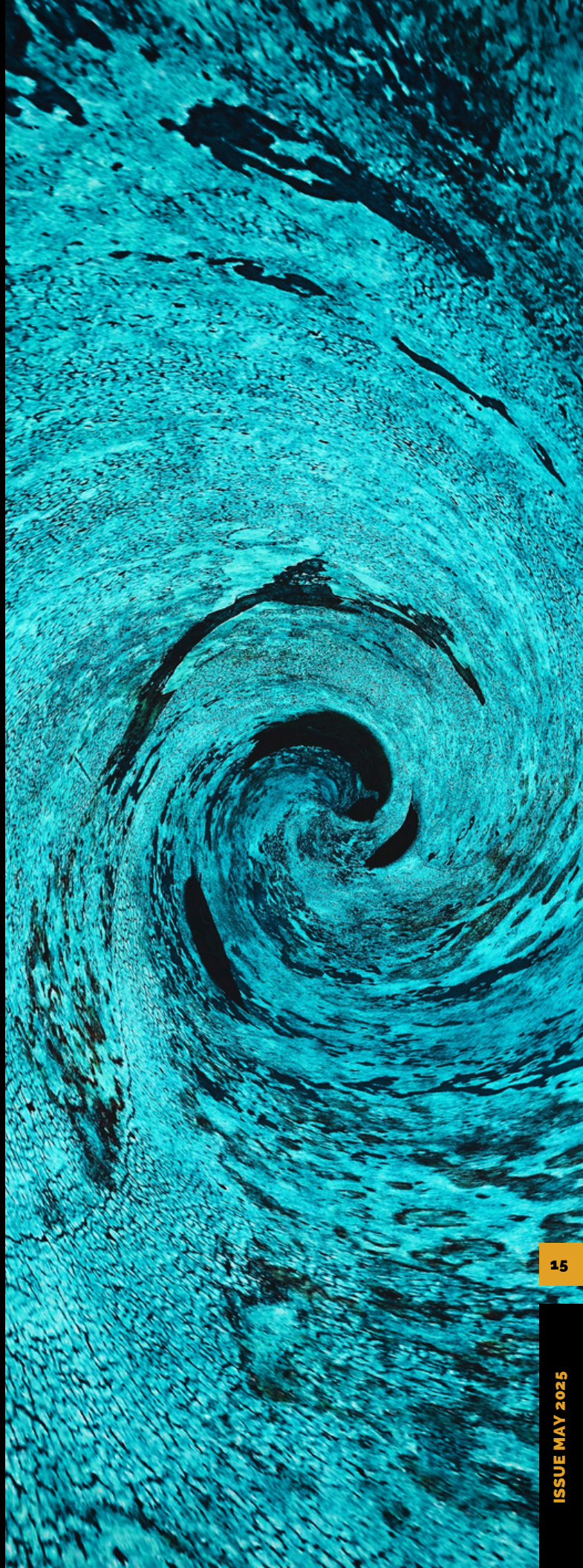
In a groundbreaking analysis of 27 major solar proton events (SPEs) from 1986 to 2020, scientists have quantitatively demonstrated that these bursts of high-energy solar particles can significantly enhance the strength of the SPV.

The findings reveal that SPEs intensify wind speeds within the polar vortex, with effects varying by altitude — a key hallmark of solar forcing in the stratosphere.

AT 100 HPA (LOWER STRATOSPHERE): WIND SPEEDS INCREASE BY ~1.8 M/S (15.1%)

AT 5 HPA (MID-STRATOSPHERE): INCREASES PEAK AT ~5.8 M/S (19.1%)

AT 1 HPA (UPPER STRATOSPHERE): SPEEDS RISE ~3.0 M/S (7.3%)



This altitude-dependent enhancement points to complex interactions between solar particles and Earth's atmosphere, with distinct energy pathways and feedback loops operating at different heights.

SPES VS. UV: WHO'S IN CHARGE?

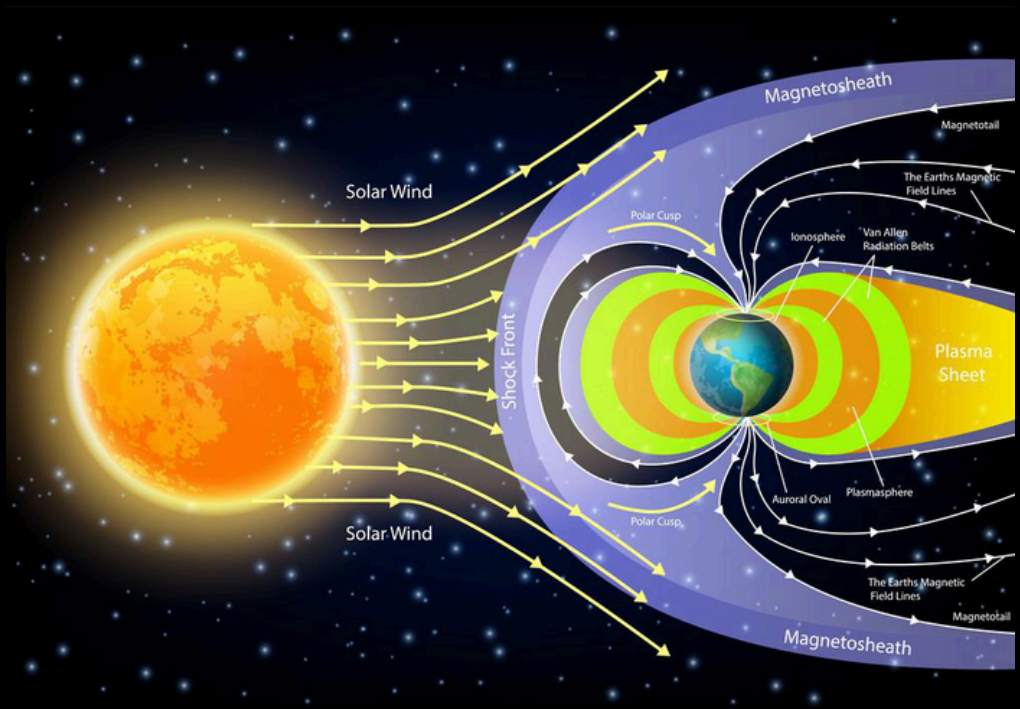
The study delineates a clear vertical separation of influence:

In the middle and lower stratosphere, SPEs are the dominant drivers of vortex intensification.
At the stratopause (the boundary between the stratosphere and mesosphere), solar ultraviolet (UV) radiation takes the lead.

While both forms of solar activity impact the SPV, the lasting and more deeply penetrating effects of SPEs suggest they may have broader implications for long-term climate variability — especially during periods of heightened solar activity.

But how do solar particles actually influence the polar vortex? The answer lies in the Sun–ozone–temperature feedback chain.

SPEs generate increased ionization in the stratosphere, particularly at high latitudes, leading to ozone depletion. Because ozone absorbs solar UV radiation and warms the stratosphere, its reduction results in cooler temperatures at high latitudes, while the tropics remain warmer. This sharpens the meridional temperature gradient (equator to pole), which in turn intensifies the polar night jet and tightens the vortex circulation.



ELECTRIC CLOUDS

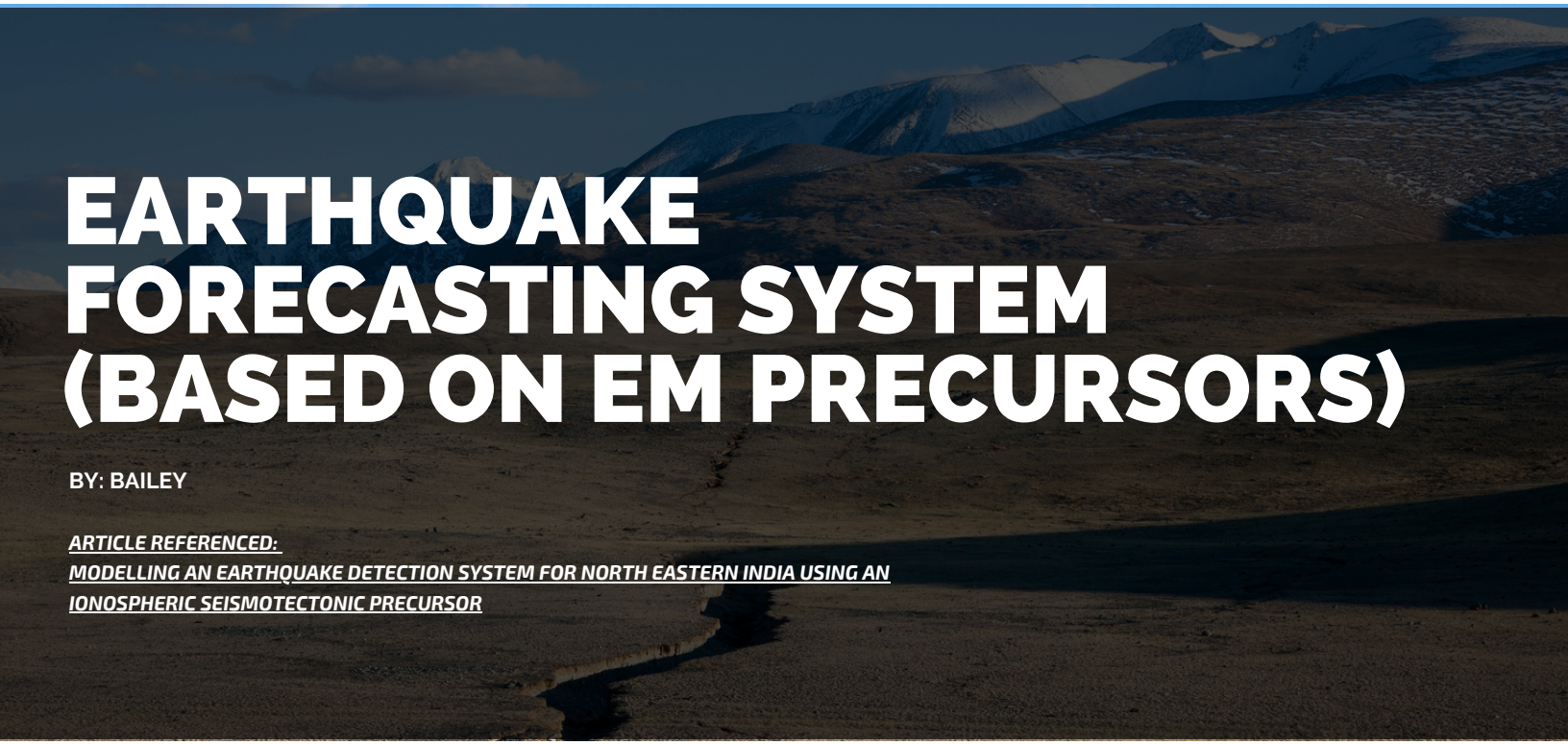
BY: BEN DAVIDSON

ARTICLE REFERENCED:
THE EFFECT OF IONS AND ELECTRIC FIELD IN THE NUCLEATION PROCESS OF CLOUDS AND GLOBAL ELECTRIC CIRCUIT

There is a very peculiar, but fantastic, chapter in a new book on infrastructure and control systems. What makes it peculiar is that right in the middle of it they have an entire chapter on ions and electric fields of clouds. While this has a relevant place in several infrastructure and control discussions, the level of detail on the electric nature of the atmosphere, and cosmic ray impact on clouds, seems almost overkill for the book topic.

Nevertheless, it is a splendid literature review, confirming (for the first time ever) the cosmic ray impact on cloud electric fields from the perspective of controls operators and systems management. There are hundreds of studies showing the connection between cosmic ray data and global cloud fraction or water vapor content, and plenty on the mechanisms of action that would allow for these significant correlations to exist, but this is the first time we're getting it from the operators who have to deal with it.

How does this work? Cosmic rays are ions (+ charged atoms, stripped of their electrons) and they deposit that charge into the atmosphere. This not only creates condensation nuclei when they hit other particles in the atmosphere, but their amplification of ambient electric fields allows water vapor and dust to more-easily attract, and then attract to each other to form the clouds.



EARTHQUAKE FORECASTING SYSTEM (BASED ON EM PRECURSORS)

BY: BAILEY

ARTICLE REFERENCED:
MODELLING AN EARTHQUAKE DETECTION SYSTEM FOR NORTH EASTERN INDIA USING AN IONOSPHERIC SEISMOTECTONIC PRECURSOR

India's North-Eastern Region is no stranger to the ground shifting beneath it. Right between the Indian, Eurasian, and Burmese tectonic plates, this region is among the most seismically active zones in the world. The study, "Modelling an Earthquake Detection System for North Eastern India Using an Ionospheric Seismotectonic Precursor", uses an innovative approach that blends satellite data, GNSS technology, and advanced simulation tools to detect earthquakes before they strike. Something we are very familiar with.

EM precursors are disturbances in the Earth's electromagnetic environment caused by tectonic stress before a major seismic event. As rocks in the Earth's crust accumulate stress, they begin to fracture microscopically, releasing positive charge carriers called p-holes. These p-holes propagate upward, altering the conductivity of the ground-air interface and perturbing the ionosphere, the electrically charged layer of Earth's upper atmosphere.
One of the most detectable effects of this EM disturbance is a shift in the Total Electron Content (TEC) of the ionosphere.

Since GNSS (Global Navigation Satellite System) signals pass through this region, these EM-induced changes delay or distort the signals — a red flag for potential seismic activity. The studies look at EM anomalies using Differential GPS (DGPS). Including the following: Ground-based GNSS receivers across seismic hotspots to measure TEC variations; UAV-based GNSS receivers to expand spatial coverage and gather vertical TEC profiles; Real-time GNSS signal analysis to flag abnormal EM activity indicative of tectonic stress buildup

By identifying statistically significant spikes in TEC beyond expected background levels, the system acts as a sensor array for pre-earthquake electromagnetic disturbances.
The model ensures real-time surveillance of EM anomalies — a critical step in turning theoretical EM precursors into actionable warnings. EM precursors offer a window of early warning — potentially hours to days before seismic waves arrive.

THE SUN AND ECONOMICS

ARTICLE REFERENCED: ECONOMIC CRISES AND SOLAR ACTIVITY EXTREMA: CALCULATION OF THE FALL IN THE GROSS WORLD PRODUCT INDEX IN 2025

BY: BAILEY

Let's discuss how the sun can steer the global economy. In this study, researcher V.A. Belkin presents evidence that solar cycles, measured through sunspot activity (Wolf numbers), are statistically correlated with the ebb and flow of global economic growth. By aligning over 60 years of Gross World Product (GWP) data with solar cycle chronology, Belkin suggests a new interdisciplinary field—**helioeconomics**—is emerging.

Belkin's analysis reveals that the **lowest** economic growth rates consistently occur in the years following these solar extremes:

AFTER SOLAR MAXIMUM: GWP DROPS TO ~2.315%
AFTER SOLAR MINIMUM: GWP DROPS EVEN FURTHER, TO ~2.184%

The upcoming solar maximum, expected to peak in 2024 (according to NASA's solar cycle 25 forecast), is therefore expected to be followed by an economic low in 2025.

By matching the order of each year within the solar cycle (e.g., year 1, 2, … 12) to global GDP data from the World Bank, Belkin finds strong statistical connections. Correlation coefficient between year-in-cycle and GDP: 0.71 R^2 (predictive power of solar cycle on GDP): up to 0.92, when excluding disruptive economic outliers like the 1970s oil crisis

These findings indicate that economic slowdowns are more than just coincidences—they often occur at predictable intervals relative to solar cycles. The mechanisms behind helioeconomic coupling may include geomagnetic storms, which can disrupt communication, transport, and financial infrastructure; shifts in atmospheric pressure, cloud cover, and agricultural productivity; and physiological impacts on humans—such as changes in blood pressure and cognition—during geomagnetic extremes, potentially influencing worker productivity and decision-making. Belkin references earlier work by historical figures like Jevons and Chizhevsky, who identified correlations between solar variability and commodity prices, epidemics, and even political upheaval. This historical perspective suggests that our economic systems may be more biologically and environmentally sensitive than conventional models typically acknowledge.

Overall, several mechanisms can be hypothesized from this data. Geomagnetic storms can disrupt communications, satellite navigation, and power grids, impacting economic sectors like transport, finance, and logistics. Atmospheric pressure and climate shifts during solar extremes can influence crop yields, energy consumption, and insurance costs. Human physiology is also affected by geomagnetic activity, with research suggesting impacts on cardiovascular health and cognitive performance, potentially influencing worker productivity and decision-making.

SUN-LIKE SUPERFLARE

BY: BEN DAVIDSON

ARTICLE REFERENCED:
COMPARING THE SUN TO SUN-LIKE STARS
ON THE IMPORTANCE OF ADDRESSING FACULAE/SPOT DOMINATION

A new study investigates whether the Sun is typical among G-type stars by analyzing flare and spot activity using Kepler mission data. It refines criteria for Sun-like stars, selecting 48 stars for detailed analysis and employing the gradient of power spectra method to classify them as spot- or faculae-dominated. The research aims to compare the Sun's activity with similar stars, updating empirical relations for starspot sizes to better understand stellar behavior and its implications for solar activity.

Superflares are stellar flares with energies 10^6 to 10^10 times greater than solar flares, ranging from 10^33 to 10^36 erg (X100 to X10,000), and here they were looking to observe them on solar-type stars with effective temperatures of 5,100–6,000 K and surface gravities of at least 4.0. The study found that 44 of the 48 stars were spot-dominated, unlike the faculae-dominated Sun, suggesting the Sun may be less active.

However, one star, KIC 11599385, closely matched the Sun's parameters and exhibited a flare of 5.5×10^33 erg, comparable to the AD774/775 event, indicating the potential for extreme solar events like those believed by astronomers to be possible. The short viewing window of the study was still able to provide an example of a sun-like superflare, which is icing on a well-done cake that already exists in the field, suggesting that every few 1000 years the sun unleashes an ~X1000 solar superflare.

FYI, if that happened today, every copper wire would melt, phones would short circuit in your pocket, the grids and internet and satellite networks would be crippled, along with all other electric-based infrastructure. The US government estimated that 95% or more of humans would be dead in 6 months after such an event.

MAGNETIC FIELD AND EARTH ROTATION

BY: BEN DAVIDSON

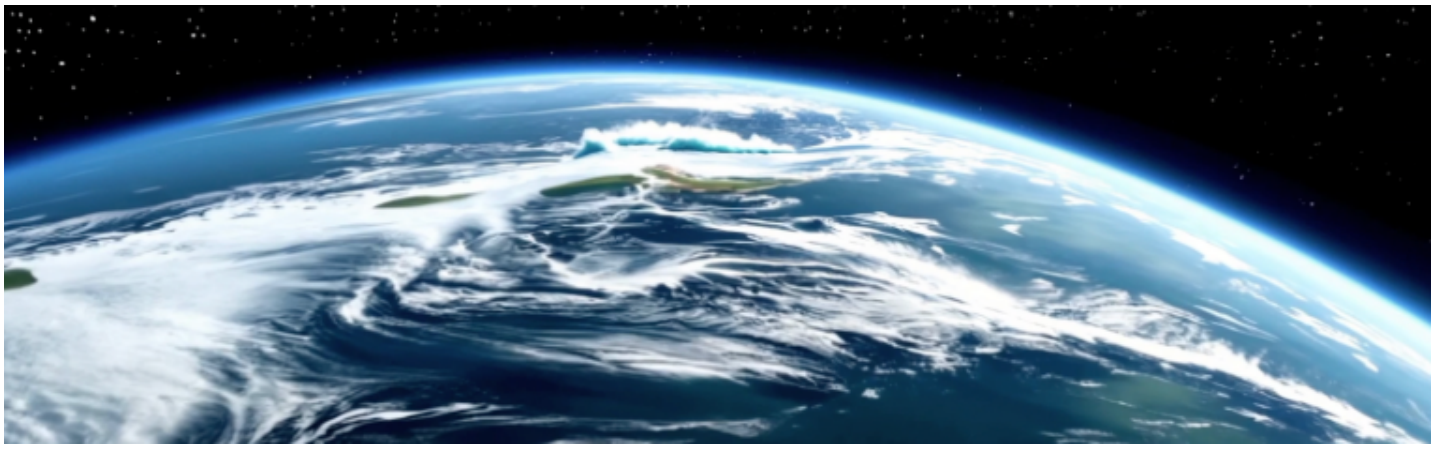
ARTICLE REFERENCED:
SHARED PERIODICITIES BETWEEN THE LENGTH OF DAY AND THE GEOMAGNETIC FIELD AT MILLENNIAL TIMESCALES

A new study investigates the relationship between variations in the Earth's length of day (LOD) and the geomagnetic field over millennial timescales, focusing on shared periodicities. Using historical geomagnetic data and LOD reconstructions derived from astronomical records, the author identifies significant correlations between decadal to millennial fluctuations in both datasets. Spectral analysis reveals common periodicities, particularly at approximately 1000–1500 years, suggesting a coupled geophysical mechanism. The research proposes that these shared cycles may arise from interactions between the Earth's rotational dynamics and deep-seated geomagnetic processes, potentially linked to fluid motions in the outer core.

Further analysis explores the implications of these findings for understanding Earth's internal dynamics, emphasizing the role of angular momentum exchange between the core and mantle. The study compares the observed periodicities with paleomagnetic and climatic records, noting potential alignments with global climatic cycles, though no direct causal link is established.

The results underscore the need for integrated geophysical models to explain the observed coherence between LOD and geomagnetic variations, offering insights into the long-term behavior of Earth's rotational and magnetic systems.

In summary, they need all-new models of how this planet actually works, and the modern changes in the magnetic field, which match up with the recent speed-up of the rotation speed (drop in LOD), is likely not a coincidence.



URANUS ROTATION AND MAGNETIC POLES

BY: BEN DAVIDSON

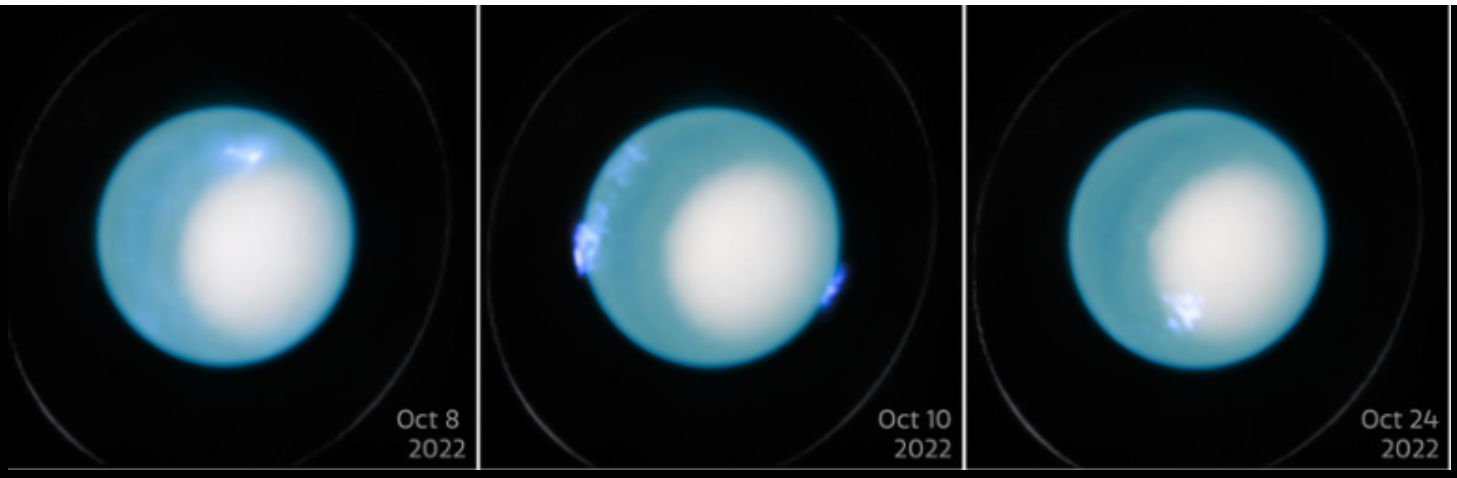
ARTICLE REFERENCED:
HUBBLE HELPS DETERMINE URANUS' ROTATION RATE WITH UNPRECEDENTED PRECISION

The James Webb Space Telescope has begun doing great science right here in our solar system. Last month we looked at Neptune, and saw how its aurora have started bleeding across the Neptunian equator, which is only supposed to happen during a magnetic pole shift.

This month, we come to Uranus, where they are using its aurora to monitor how the planet spins. The purpose was to get a near-perfect idea of how long it takes Uranus to rotate, but in doing so, their explanation of WHY that is needed is the bigger story. They say they haven't been able to accomplish this before because the magnetic poles of Uranus are moving and shifting.

The problem is that this is the first we're hearing that. True, we have predicted a magnetic pole shift across the solar system, and showed various lines of evidence supporting that concept, but this article skips-over the Uranus pole shift as an afterthought to the rotational study. Does it seem odd? That NASA wouldn't take an opportunity to mention the pole shift in an article of its own? When was this discovered? Do they not consider this newsworthy?

Imagine if the New York Times published an article about stock prices over time, and they slip-in that the US government figured out how to chemically make gold several months ago, mentioned casually, in one sentence, and then never return to it – that's what this NASA article did regarding the Uranus pole shift.



These images from the NASA/ESA Hubble Space Telescope showcase the dynamic aurora on Uranus in October 2022. These observations were made by the Space Telescope Imaging Spectrograph (STIS) and includes both visible and ultraviolet data. An international team of astronomers used Hubble to make new measurements of Uranus' interior rotation rate by analyzing more than a decade of the telescope's observations of Uranus' aurorae. This refinement of the planet's rotation period achieved a level of accuracy 1000 times greater than previous estimates and serves as a crucial new reference point for future planetary research.

SOLAR HELIUM

BY: BEN DAVIDSON

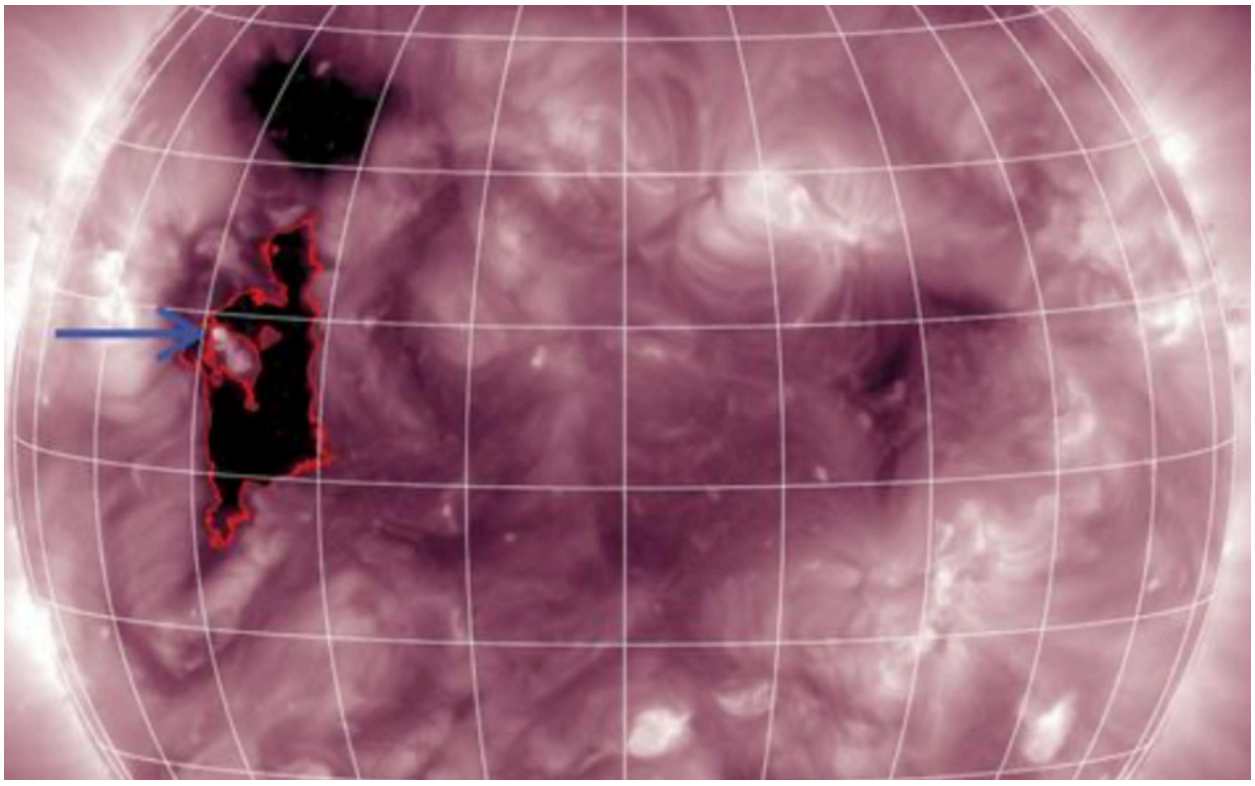
ARTICLE REFERENCED:
SWRI SCIENTISTS SOURCE SOLAR EMISSIONS WITH LARGEST-EVER CONCENTRATION OF RARE HELIUM ISOTOPE

A new observation by the solar orbiter satellite has found a completely asinine level of a rare Helium isotope coming from the edge of a coronal hole. This result has heliophysicists and astronomers in general completely baffled and they have no clue where so much of this isotope came from.

This is of critical importance for the solar system shift, the disaster cycle, and the interaction of our local system with the galactic magnetic field. One of the critical signs we have seen so-far on the sun has been the definitive change in the coronal magnetic fields, and the increase in Helium in the sun's atmosphere.

Here, it is the "open" magnetic fields of the coronal hole that is the source of the Helium, which could not make any more sense for observers who see how the entire solar system is changing. This is not just a confirmation of the increasing Helium content in the corona, but its direct connection to the sun's magnetic fields.

The galactic current sheet (carrying the galactic magnetic reversal) is impacting our local galactic neighborhood, and we are seeing the results on every sphere of the system, and even in interplanetary space. This change will eventually result in a super-abundance of Helium when the reversal-point arrives, and the Helium will be the source of the "red sun" appearance as it begins to fade in brightness before the solar micronova that occurs at the zenith of these cycles.



THE MICHOACAN EXCURSION

BY: BEN DAVIDSON

ARTICLE REFERENCED:
SWRI SCIENTISTS SOURCE SOLAR EMISSIONS WITH LARGEST-EVER CONCENTRATION OF RARE HELIUM ISOTOPE

A new study has filled a gap that we knew needed to be filled, but it did so in such a convincing way that I think it merits taking the official role as the name-giving study for the geomagnetic change in the cycle ~30,000 years ago.

There is an incredible number of studies that peg the "Mono Lake" excursion around 36,000 years ago, but there are still several others that put this event at closer to 30,000 years ago. The issue? Every single paleomagnetic record shows dips in field strength at both time periods.

While the mainstream geologists continue struggling to rectify this gap, the easy way to do that is to realize that they are indeed two separate events. In fact, this study, which gives the 30K event the name of "Michaocan", now completes the last 50,000 years of disaster cycles:

48,000 YEARS AGO - LASCHAMP #1 EXCURSION (12K EVENT)

42,000 YEARS AGO - LASCHAMP #2 EXCURSION (6K EVENT)

36,000 YEARS AGO - MONO LAKE EXCURSION (12K EVENT)

30,000 YEARS AGO - MICHOACAN EXCURSION (6K EVENT) ← THIS STUDY

24,000 YEARS AGO - LAKE MUNGO EXCURSION (12K EVENT)

18,000 YEARS AGO - HILINA PALI EXCURSION (6K EVENT)

12,000 YEARS AGO - GOTHENBURG EXCURSION (12K EVENT)

6000 YEARS AGO - TIANCHI (NOAH) EXCURSION (6K EVENT)

NOW - ONGOING, EXPECTED PEAK 2030-2050 (12K EVENT)

A FELLOW OBSERVER HAS CREATED
THE SOLAR KILLSHOT NETWORK

The Solar Killshot Network is the only worldwide, member-led, collaborative organization on a mission to connect members locally so they can find or form micronova survival groups.

The Network is nurtured by Sol Survivors for Sol Survivors, so you'll get resources, training, and support from people who understand your unique survival goals, and in a format that makes it easy for you to stay focused and take action

SOLAR KILLSHOT

ACTION NETWORK

Learn the secrets of successful survival groups; ones you can trust to care for you and your family if—for whatever reason—you can't.

Discover the essential survival skills to focus on first, rather than waste time, money, and energy researching rabbit holes on your own. Coming Soon

Customize our community-built micronova action planner to fit your unique needs, budget, lifestyle, and location.

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274,497,897 LIFETIME VIEWS

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