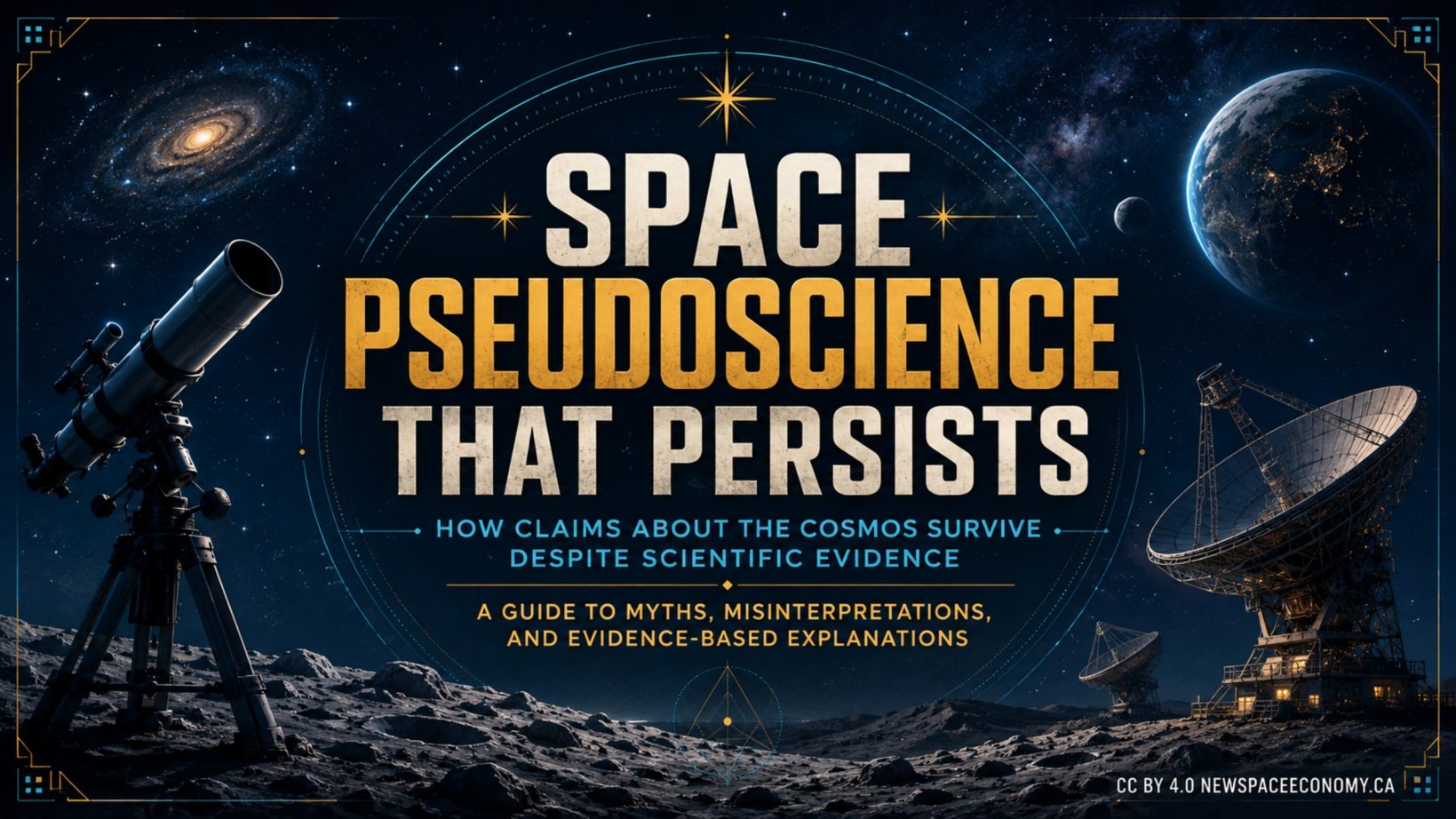




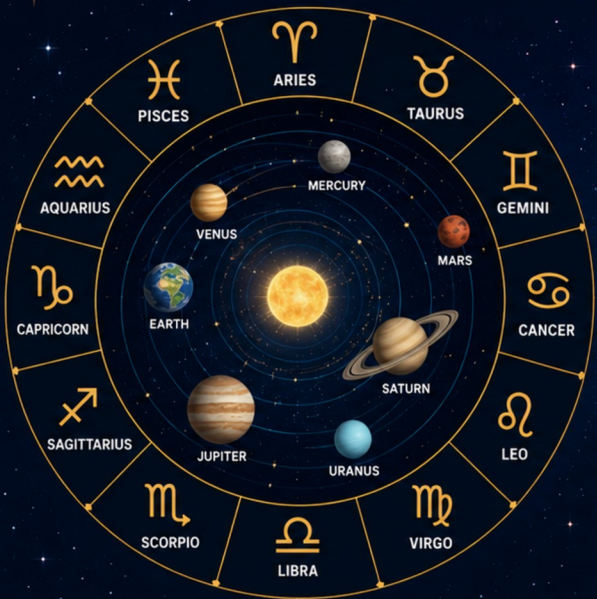
SPACE PSEUDOSCIENCE THAT PERSISTS

• HOW CLAIMS ABOUT THE COSMOS SURVIVE •
DESPITE SCIENTIFIC EVIDENCE

A GUIDE TO MYTHS, MISINTERPRETATIONS,
AND EVIDENCE-BASED EXPLANATIONS

ASTROLOGY AND THE MISINTERPRETATION OF ASTRONOMY

WHY CELESTIAL SYMBOLISM IS NOT THE SAME AS SCIENTIFIC EVIDENCE



ASTRONOMY

A SCIENTIFIC STUDY
OF CELESTIAL OBJECTS



INVESTIGATES THE UNIVERSE
USING OBSERVATION,
MATHEMATICS, AND PHYSICS



FOCUSES ON WHAT IS,
HOW, AND WHY



BUILDS MODELS THAT
EXPLAIN NATURAL
PHENOMENA

VS.



ASTROLOGY

ASSIGNS HUMAN MEANING
TO CELESTIAL POSITIONS
WITHOUT RELIABLE
SCIENTIFIC EVIDENCE



INTERPRETS CELESTIAL POSITIONS
AS PERSONALITY TRAITS AND
LIFE OUTCOMES



RELIES ON SYMBOLISM,
TRADITION, AND SUBJECTIVE
INTERPRETATION



NOT TESTED, NOT VERIFIABLE,
NOT AN EVIDENCE-BASED
PREDICTIVE SCIENCE

WHAT SCIENCE TESTS



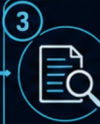
1 MEASURABLE PREDICTIONS

CLEAR, SPECIFIC
PREDICTIONS ABOUT
THE NATURAL WORLD



2 REPEATABLE EVIDENCE

RESULTS CAN BE
OBSERVED AND
REPRODUCED BY
INDEPENDENT RESEARCHERS



3 PEER REVIEW

FINDINGS ARE CRITICALLY
EVALUATED BY EXPERTS
BEFORE BEING ACCEPTED
BY THE SCIENTIFIC
COMMUNITY



TAKEAWAY: ASTRONOMY SEEKS TO UNDERSTAND THE UNIVERSE. **ASTROLOGY SEEKS TO ASSIGN MEANING TO IT.**
ASTROLOGY IS A CULTURAL BELIEF SYSTEM, NOT AN EVIDENCE-BASED PREDICTIVE SCIENCE.

THE MOON LANDING HOAX: WHY THE CLAIM PERSISTS

COMMON CONSPIRACY ARGUMENTS AND THE EVIDENCE THAT ADDRESSES THEM

1 NO STARS IN PHOTOS

CLAIM



EVIDENCE

EXPLAINED BY CAMERA EXPOSURE

Cameras were set for the bright lunar surface. Short exposure to capture detail on the ground makes faint stars too dim to record.



EXPOSURE OPTIMIZED FOR SURFACE DETAIL

2 FLAG WAVES

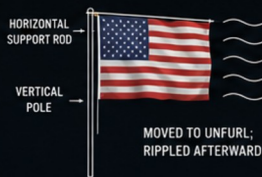
CLAIM



EVIDENCE

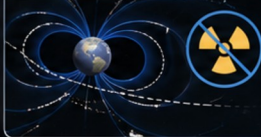
EXPLAINED BY MOTION AND A SUPPORT ROD

The flag was moved to unfurl it and continued to ripple. A horizontal support rod kept it extended.



3 VAN ALLEN BELTS

CLAIM



EVIDENCE

EXPLAINED BY MISSION TRAJECTORY AND LIMITED EXPOSURE

Apollo flew through the belts quickly where they are thinner. Time in the most intense regions was minimized and radiation doses were well within safe limits.



4 SHADOWS LOOK WRONG

CLAIM



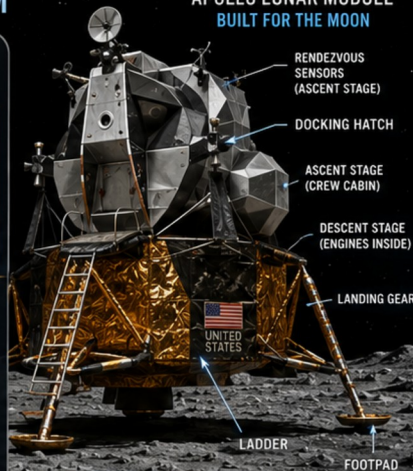
EVIDENCE

EXPLAINED BY PERSPECTIVE AND UNEVEN TERRAIN

The Sun is the only light source. Shadows appear different due to camera perspective, slopes, craters, and uneven ground.



APOLLO LUNAR MODULE BUILT FOR THE MOON



- CREW CAPACITY: 2 ASTRONAUTS
- DRY WEIGHT: ~15,000 KG (33,000 LB)
- DESCENT ENGINE THRUST: ~10,000 LBF
- TYPICAL LUNAR SURFACE STAY: UP TO ~75 HOURS



TAKEAWAY: MULTIPLE INDEPENDENT LINES OF EVIDENCE SUPPORT THE APOLLO LANDINGS.



TRACKING DATA
FROM MULTIPLE
NATIONS



THOUSANDS OF
PHOTOS AND HOURS
OF VIDEO



LUNAR SAMPLES
ANALYZED BY
LABS WORLDWIDE



EYEWITNESS ACCOUNTS
FROM THOUSANDS
INVOLVED



HARDWARE, RECORDS,
AND DOCUMENTS
PRESERVED

ANCIENT ALIENS AND THE REWRITING OF HUMAN HISTORY

WHY HUMAN ACHIEVEMENT DOES NOT REQUIRE AN EXTRATERRESTRIAL EXPLANATION

EXAMPLES OF REMARKABLE HUMAN ACHIEVEMENTS



PYRAMIDS



NAZCA GEOGLYPHS



ANCIENT ENGINEERING

THE RECURRING REASONING PATTERN

1

IMPRESSIVE ACHIEVEMENT



A REMARKABLE ANCIENT WORK INSPIRES AWE AND RAISES QUESTIONS.

2

ASSUMPTION OF LOST TECHNOLOGY



IT IS ASSUMED THAT THE ACHIEVEMENT REQUIRES TECHNOLOGY BEYOND THE CAPABILITIES OF THE PEOPLE WHO BUILT IT.

3

EXTRATERRESTRIAL ATTRIBUTION



THE ACHIEVEMENT IS ATTRIBUTED TO ALIENS OR ANCIENT VISITORS RATHER THAN HUMAN SOCIETIES.

4

DISMISSAL OF HUMAN EVIDENCE



MATERIAL EVIDENCE, EXPERTS, AND CULTURAL CONTEXT ARE REJECTED OR IGNORED.

EVIDENCE FIRST: THE ARCHAEOLOGICAL APPROACH



1. OBSERVE
IDENTIFY A QUESTION ABOUT THE PAST.



2. EXCAVATE
RECOVER MATERIALS IN CONTEXT CAREFULLY.



3. RECORD
DOCUMENT FINDINGS ACCURATELY.



4. ANALYZE
STUDY MATERIALS USING MULTIPLE METHODS.



5. INTERPRET
BUILD EXPLANATIONS BASED ON EVIDENCE.



6. PEER REVIEW
SHARE, TEST, AND REFINE WITH OTHER EXPERTS.



7. UNDERSTAND
BUILD A COHERENT STORY OF HUMAN ACHIEVEMENT.

ARCHAEOLOGY ATTRIBUTES THESE WORKS TO HUMAN SOCIETIES



MATERIAL EVIDENCE
ARTIFACTS, TOOLS, AND REMAINS FOUND IN CONTEXT INFORM HOW PEOPLE LIVED AND WORKED.



CONSTRUCTION METHODS
TECHNIQUES CAN BE STUDIED, EXPERIMENTED, AND REPLICATED USING KNOWN MATERIALS AND HUMAN LABOR.



CULTURAL CONTEXT
ART, WRITING, ORAL TRADITION, AND LANDSCAPE USE SHOW WHY AND HOW COMMUNITIES CREATED THESE WORKS.



INTERDISCIPLINARY RESEARCH
ARCHAEOLOGY, ANTHROPOLOGY, GEOLOGY, HISTORY, AND OTHER SCIENCES BUILD A COHERENT HUMAN EXPLANATION.

HUMAN SOCIETIES, WORKING TOGETHER OVER GENERATIONS, HAVE CREATED EXTRAORDINARY THINGS.
THE EVIDENCE SHOWS THEIR INGENUITY—NOT ALIENS.

NIBIRU: THE IMAGINARY PLANET OF DOOM

WHY A PREDICTED COLLISION HAS NO SUPPORTING ASTRONOMICAL EVIDENCE

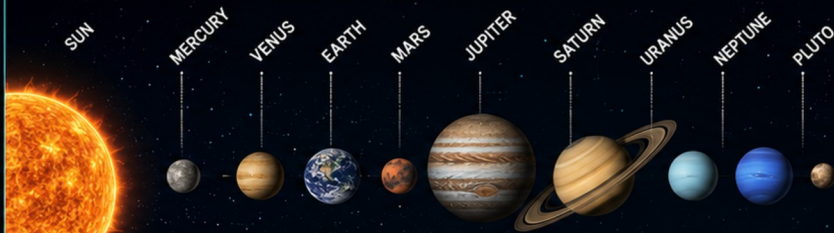


THE CLAIM

Nibiru is a proposed hidden planet, also called "Planet X," that allegedly comes from the outer Solar System on a long orbit and is on a **collision course with Earth**, causing catastrophic events.



OUR ESTABLISHED SOLAR SYSTEM



Astronomers have mapped and monitored our Solar System in detail. No additional planet the size of Nibiru exists within it.

THE ASTRONOMICAL EVIDENCE



GRAVITY WOULD REVEAL A LARGE NEARBY PLANET.

A massive object would noticeably affect the motions of known planets and spacecraft. We do not observe any such effects.



WIDE-SKY SURVEYS WOULD DETECT IT.

Powerful telescopes continuously scan the entire sky. A large planet would be bright and impossible to miss.



REPEATED OBSERVATIONS WOULD TRACK IT.

Any real planet would be seen in multiple observations over time and its orbit would be measured.



NO CREDIBLE EVIDENCE SUPPORTS NIBIRU OR AN IMMINENT COLLISION.

The claim has no basis in observational astronomy.

CLAIM VS. ASTRONOMICAL TEST

THE CLAIM	ASTRONOMICAL TEST	THE RESULT
 A hidden planet the size of a gas giant exists in our Solar System.	Check gravitational effects on planets and spacecraft. →	 No unexplained gravitational effects are observed.
 It is hidden from our view.	Search the entire sky with optical and infrared telescopes. →	 No such planet is detected.
 It is on a collision course with Earth.	Measure its position repeatedly to determine its orbit. →	 No object like this is observed or tracked.
 It will cause catastrophic events soon.	Evaluate evidence of approach and timing. →	 No credible evidence supports any imminent threat.



**NIBIRU IS A
MODERN MYTH,
NOT A REAL PLANET.**

Extraordinary claims require extraordinary evidence. In astronomy, no credible evidence exists for Nibiru or a predicted collision with Earth.

FLAT EARTH CLAIMS ABOUT SPACE

FIVE OBSERVATIONS THAT TEST THE SHAPE OF EARTH

1 SATELLITE COMMUNICATIONS

Satellites orbit Earth and maintain line-of-sight over the horizon as both the satellite and the ground station move. This consistent coverage and predictable handoffs match a spherical Earth.

Flat-Earth models cannot explain why satellites remain in view over curved paths or how global coverage is possible.



2 LUNAR ECLIPSES

During a lunar eclipse, Earth's shadow on the Moon is always circular and curved. Only a spherical Earth consistently produces this across all eclipses and lunar positions.

Flat-Earth models predict elongated or inconsistent shadows, which are not observed.



5 GRAVITY

Gravity pulls everything toward Earth's center, giving weight to objects and keeping atmospheres and oceans bound to the planet.

Flat-Earth models have no mechanism that explains gravity acting equally in all directions.



HORIZON PERSPECTIVE

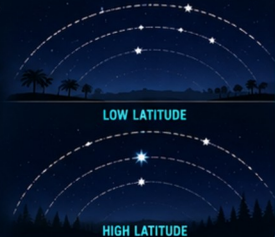
Over a curved surface, distant objects disappear bottom-first because the horizon rises to meet them.



3 CHANGING STARS WITH LATITUDE

As you travel north or south, the altitude of stars changes in predictable ways. Some stars rise or set, while others appear nearer the zenith. This matches what we expect on a sphere.

On a flat Earth, the entire sky should look the same from every location, which is not the case.



4 TIME ZONES

Time zones exist because Earth rotates. Locations to the east experience sunrise earlier than those to the west. This creates a consistent, gradual change in time around the globe.

Flat-Earth models cannot produce the observed, global pattern of time zones.

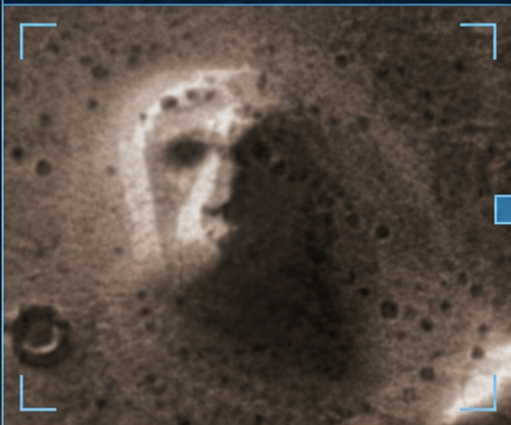


MULTIPLE INDEPENDENT OBSERVATIONS SUPPORT A SPHERICAL EARTH.

THE FACE ON MARS: PAREIDOLIA IN SPACE

HOW LIMITED IMAGERY CAN TURN A NATURAL LANDFORM INTO A MYSTERY

EARLY, LOW-RESOLUTION IMAGE



LIMITED RESOLUTION + LOW CONTRAST =
THE BRAIN FILLS IN THE GAPS.

LATER, HIGHER-RESOLUTION IMAGE



MORE DETAIL REVEALS A MESA SHAPED BY
NATURAL GEOLOGICAL PROCESSES.

PATTERN RECOGNITION



OUR BRAINS ARE WIRED TO FIND FAMILIAR PATTERNS.
WHEN DATA IS LIMITED OR UNCLEAR, WE SEE FACES,
BUILDINGS, OR MEANING WHERE NONE EXIST.

THE EVIDENCE LADDER

- **FIRST IMPRESSION**
A STRIKING SHAPE SPARKS CURIOSITY
AND WILDSPECULATION.
- **BETTER DATA**
HIGHER RESOLUTION IMAGERY AND
MULTIPLE VIEWS PROVIDE CLARITY.
- **GEOLOGICAL INTERPRETATION**
SCIENCE EXPLAINS THE FEATURE
THROUGH KNOWN PROCESSES.



KEY TAKEAWAY: EXTRAORDINARY CLAIMS REQUIRE EXTRAORDINARY EVIDENCE.
BETTER DATA OFTEN TURNS MYSTERY INTO UNDERSTANDING.

HOLLOW EARTH AND HIDDEN CIVILIZATIONS

WHAT EARTH SCIENCE REVEALS ABOUT THE PLANET'S INTERIOR

1 SEISMIC WAVES

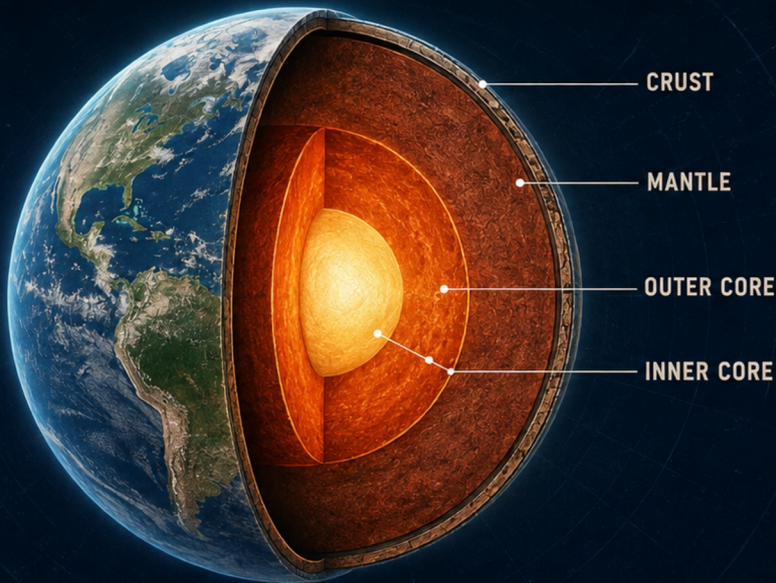


EARTHQUAKES SEND SEISMIC WAVES THROUGH THE PLANET. P AND S WAVES CHANGE SPEED AND DIRECTION IN PREDICTABLE WAYS THAT MATCH A SOLID, LAYERED INTERIOR—NOT A HOLLOW CAVITY.

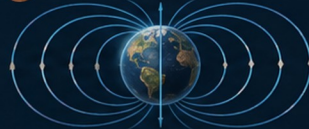
2 DENSITY



DENSITY INCREASES STEADILY WITH DEPTH DUE TO COMPRESSION AND COMPOSITION. THIS PATTERN MATCHES MEASUREMENTS FROM METEORITES, LAB EXPERIMENTS, AND GRAVITY DATA—NOT A HOLLOW INTERIOR.



3 MAGNETIC FIELD



EARTH'S MAGNETIC FIELD IS GENERATED BY MOVING LIQUID IRON IN THE OUTER CORE. THIS GEOLOGICAL DYNAMO EXPLAINS THE FIELD'S PATTERNS—NOT A HOLLOW WORLD.

4 HIGH-PRESSURE MINERAL PHYSICS



LABORATORY EXPERIMENTS REPLICATE EXTREME PRESSURES AND TEMPERATURES INSIDE EARTH. MINERALS BEHAVE AS OBSERVED IN SEISMIC AND GRAVITY DATA, CONFIRMING A SOLID, LAYERED PLANET.



THE TAKEAWAY



MULTIPLE, INDEPENDENT LINES OF EVIDENCE CONVERGE ON THE SAME CONCLUSION:
EARTH IS A DENSE, LAYERED PLANET WITH A HOT, METALLIC CORE.

NO ACCESSIBLE HOLLOW WORLD OR HIDDEN CIVILIZATION HAS BEEN DEMONSTRATED.



UFOs, UAPs, AND THE LEAP TO ALIENS

WHY AN UNIDENTIFIED OBSERVATION IS NOT AUTOMATICALLY EXTRATERRESTRIAL

1

OBSERVATION



AN EVENT OR OBJECT IS DETECTED BY SENSORS OR OBSERVERS.

2

DATA QUALITY



ASSESS SENSOR PERFORMANCE, CALIBRATION, CONTEXT, AND DATA INTEGRITY.

3

ORDINARY EXPLANATIONS



SYSTEMATICALLY CONSIDER AND TEST ALL REASONABLE CONVENTIONAL EXPLANATIONS.

4

UNRESOLVED STATUS



IF NO ORDINARY EXPLANATION FITS THE AVAILABLE EVIDENCE, THE CASE REMAINS UNRESOLVED.

5

EXTRAORDINARY CLAIM



ONLY WITH COMPELLING, REPRODUCIBLE EVIDENCE SHOULD EXTRAORDINARY CLAIMS BE CONSIDERED.

POSSIBLE ORDINARY EXPLANATIONS

AIRCRAFT



MANNED AIRCRAFT, INCLUDING COMMERCIAL, GENERAL AVIATION, AND MILITARY.

BALLOONS



WEATHER BALLOONS OR OTHER HIGH-ALTITUDE BALLOON SYSTEMS.

DRONES



SMALL UNMANNED AIRCRAFT SYSTEMS OPERATING LEGALLY OR ILLEGALLY.

SENSOR ARTIFACTS



RADAR CLUTTER, MULTIPATH, GLINT, ANGLE SIDELobe, OR CAMERA NOISE.

ATMOSPHERIC EFFECTS



LENTICULAR CLOUDS, LIGHT REFRACTION, MIRAGES, OR ICE CRYSTAL EFFECTS.

MISIDENTIFICATION



STARS, PLANETS, AIRCRAFT LIGHTS, SATELLITES, OR OTHER COMMON OBJECTS MISTAKEN FOR UNKNOWN.

UNIDENTIFIED $\neq$ EXTRATERRESTRIAL



UNIDENTIFIED
THE OBJECT OR EVENT IS NOT YET EXPLAINED.



EXTRATERRESTRIAL
THE OBJECT ORIGINATES BEYOND EARTH.



AN UNRESOLVED OBSERVATION IS **NOT** PROOF OF ALIEN ORIGIN.

DISCIPLINED ANALYSIS, HIGH-QUALITY DATA, AND OPEN-MINDED SKEPTICISM ARE ESSENTIAL TO FIND THE TRUTH—WHEREVER IT MAY LEAD.

THE PLANETARY ALIGNMENT APOCALYPSE

WHY PLANETARY GEOMETRY DOES NOT PREDICT GLOBAL CATASTROPHE



⚠️ MYTH

PLANETS ALIGNING EXERT DANGEROUS GRAVITY ON EARTH.



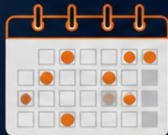
✅ EVIDENCE

PLANETS' GRAVITY ON EARTH IS TINY COMPARED WITH THE MOON AND SUN.



⚠️ MYTH

ALIGNMENTS ARE RARE MYSTICAL EVENTS WITH SPECIAL POWER.



✅ EVIDENCE

ALIGNMENTS ARE COMMON AND HAPPEN MANY TIMES EACH YEAR.



⚠️ MYTH

ALIGNMENTS CAUSE EARTHQUAKES AND GLOBAL DISASTERS.



✅ EVIDENCE

EARTHQUAKES ARE DRIVEN BY GEOLOGICAL PROCESSES, NOT PLANETARY ALIGNMENT.



THE TAKEAWAY:

PLANETARY ALIGNMENTS ARE A BEAUTIFUL PART OF ASTRONOMY,
NOT A CAUSE OF CATASTROPHE. RELY ON SCIENCE, NOT SUPERSTITION.

SPACE WEATHER MYTHS AND COSMIC CATASTROPHE

SEPARATING REAL TECHNOLOGY RISKS FROM EXAGGERATED PREDICTIONS

SOLAR FLARE

A BURST OF ENERGY AND RADIATION FROM THE SUN

GEOMAGNETIC STORM

SOLAR EJECTIONS INTERACT WITH EARTH'S MAGNETIC FIELD, CAUSING DISTURBANCES

SATELLITES

COMMUNICATIONS

AVIATION

POWER SYSTEMS

WHAT IS REAL—ESTABLISHED RISKS



RADIO DISRUPTION

SOLAR FLARES CAN DISRUPT HIGH-FREQUENCY (HF) RADIO COMMUNICATIONS, ESPECIALLY ON THE DAYSIDE OF EARTH.



NAVIGATION IMPACTS

GEOMAGNETIC STORMS CAN DEGRADE GPS SIGNALS AND REDUCE NAVIGATION ACCURACY, PARTICULARLY AT HIGH LATITUDES.



SATELLITE & POWER-GRID RISKS

STRONG STORMS CAN DAMAGE SATELLITE ELECTRONICS, INCREASE DRAG, AND INDUCE CURRENTS IN POWER GRIDS THAT MAY LEAD TO OUTAGES.

WHAT IS EXAGGERATED—NOT SUPPORTED BY EVIDENCE



INSTANT HUMAN EXTINCTION

NO PLAUSIBLE SPACE WEATHER EVENT CAN INSTANTLY HARM ALL HUMANS. EARTH'S MAGNETIC FIELD AND ATMOSPHERE PROVIDE STRONG PROTECTION.



EARTH'S SUDDEN LOSS OF ATMOSPHERE

SPACE WEATHER DOES NOT STRIP AWAY EARTH'S ATMOSPHERE. THIS IS A PHYSICALLY UNREALISTIC CLAIM.



GUARANTEED CIVILIZATION COLLAPSE

CIVILIZATION IS RESILIENT. WE HAVE REDUNDANCIES, ENGINEERING SOLUTIONS, AND TIME TO PREPARE.

HOW TO THINK ABOUT IT—FOCUS ON MANAGEABLE RISKS



RISK DEPENDS ON EVENT STRENGTH

NOT ALL EVENTS ARE THE SAME. STRONGER STORMS POSE GREATER RISKS, BUT SEVERE EVENTS ARE RARE.



INFRASTRUCTURE EXPOSURE MATTERS

IMPACTS DEPEND ON TECHNOLOGY WE RLY ON AND HOW WELL SYSTEMS ARE DESIGNED, SHIELDED, AND MAINTAINED.



FORECASTING PROVIDES WARNING

SPACE WEATHER CAN BE MONITORED AND FORECASTED, GIVING TIME TO TAKE ACTION AND REDUCE POTENTIAL IMPACTS.



PREPAREDNESS REDUCES IMPACTS

PLANNING, DRILLS, BACKUPS, AND INTERNATIONAL COORDINATION HELP SOCIETY STAY RESILIENT DURING SPACE WEATHER EVENTS.

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