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Beyond Disaster Counts: A Multidimensional Evidence Audit of Global Hazard Severity, Environmental Modification, Crisis Governance, and Eschatological Interpretation, 2019-September 2026

Sixbert SANGWA[1*]

[1] Open Christian University, Sacramento, California, USA

* Correspondence: ssangwa@openchristian.education | ORCID: 0000-0001-8650-1444

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ABSTRACT

Claims that recent disasters indicate a new regime of deliberate environmental manipulation cannot be evaluated adequately from disaster counts alone. This mixed-method study treats 1 January 2019 through 12 September 2026 as a single post-2018 analytical period and evaluates occurrence, physical intensity, spatial and energetic magnitude, human consequences, economic severity, compound cascades, and upper-tail behavior alongside environmental-modification capability and crisis governance. Completed CRED/EM-DAT reports were combined with BAMS/IBTrACS tropical-cyclone metrics, Copernicus fire and climate products, USGS large-earthquake records, Smithsonian volcanism, and 2026 loss and hazard surveillance. Across complete years 2019-2025, EM-DAT averaged 393.4 reported disasters per year, approximately 7.5% above a reconstructed 2000-2018 sensitivity baseline. Yet annual deaths and affected population were substantially below approximate pre-2019 levels, whereas reported economic losses were about 29% higher and strongly exposure-sensitive. Physical magnitude was also heterogeneous. Named tropical cyclones averaged 91.6 per year versus a 1991-2020 climatology of 87, while global accumulated cyclone energy was non-monotonic. Wildfires produced severe regional upper tails, including record European emissions in 2025 and exceptionally intense 2026 regional seasons, although global biomass-burning emissions through 20 August 2026 remained the lowest for the same period in the 24-year CAMS record. M7+ earthquakes averaged 13.4 per year in 2019-2025 versus the USGS long-run expectation of about 16; 11 had occurred by 12 September 2026, close to the long-run annual pace. Seismic magnitude nevertheless scales exponentially in energy, so the 2025 M8.8 event produced an extreme energy tail despite ordinary frequency. Late-2026 surveillance further documents record global August warmth, severe European drought and river-flow deficits, a catastrophic cascading flood in Nepal, intense regional fires, and active eruptions including Sinabung and Ambae. These observations strengthen the case for nonlinear and upper-tail severity analysis, but do not establish uniform acceleration across unrelated geophysical hazards. A final, explicitly bounded Christian eschatological analysis finds that the convergence of high-impact hazards, compound disruption, and nonlinear extremes is compatible with the biblical birth-pains motif, while distinguishing theological correspondence from scientific attribution and from claims that specific present events are definitive fulfilments of later apocalyptic judgments. The Capability-Anomaly-Attribution-Governance framework therefore separates hazard evidence, causal attribution, crisis instrumentalization, and eschatological interpretation so that no layer substitutes for another.

Keywords: disaster attribution; hazard severity; nonlinear extremes; environmental modification; floods and drought; wildfires; crisis governance; eschatology

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1. Introduction

1.1 From contested claim to testable hazard question

The possibility that human actors can deliberately alter parts of the environment is not, in itself, speculative. Cloud seeding has been practiced for decades; the United States used weather-modification operations during the Vietnam War; international law subsequently prohibited hostile environmental modification; anthropogenic fluid injection and extraction can induce earthquakes; and solar-radiation-modification research now raises governance questions that were largely hypothetical only a generation ago (Ellsworth, 2013; National Academies of Sciences, Engineering, and Medicine [NASEM], 2021; U.S. Department of State, 1967; World Meteorological Organization [WMO], 2025). These facts make environmental-modification governance a legitimate subject of hazards research. They do not, however, establish that a particular flood, cyclone, wildfire, earthquake, or volcanic eruption was deliberately engineered.

That distinction has become especially important since 2025. Exceptional fires, destructive storms, flood disasters, severe drought, a major Kamchatka earthquake, renewed volcanic episodes, rapid growth in public discussion of geoengineering, and renewed scrutiny of weather-modification programs have encouraged causal narratives ranging from ordinary climate attribution to claims of covert weather warfare. The first eight months of 2026 intensified public concern further. Yet a scientifically meaningful assessment cannot infer a global regime from salience alone. It must distinguish event count from physical magnitude, upper-tail severity, compound cascades, exposure, and the nonlinear scaling built into several hazard metrics.

This article conducts that test. It does not ask whether a contested interpretation can be rhetorically defended. It asks which parts of the empirical record survive independent validation, which do not, and what evidence would be necessary to move from capability to event-specific attribution. This approach is intentionally symmetric. Official institutional explanations are treated as evidence rather than as infallible authority; alternative hypotheses are treated as hypotheses rather than as presumptively suppressed truth. The criterion is proportional inference from independently checkable evidence.

1.2 Research problem and contribution

Three analytical errors frequently occur in debates over environmental manipulation. First, **capability substitution** treats the existence of a technology as proof that it caused a particular event. Second, **anomaly substitution** treats statistical deviation as proof of deliberate causation. Third, **motive substitution** treats a political actor's interest in using crises for institutional change as evidence that the actor produced the initiating crisis. Each error collapses distinct causal questions.

The present study addresses those problems through five contributions. First, it changes the temporal estimand: 2019 through 12 September 2026 is treated as the primary post-2018 regime rather than presuming that 2019 and 2025 are separate causal phases. Second, it moves beyond occurrence counts to a multidimensional severity architecture separating frequency, physical intensity, spatial or energetic magnitude, human consequences, economic losses, compound cascades, and upper-tail extremity. Third, it identifies where physical relationships are intrinsically nonlinear, including squared-wind accumulated cyclone energy, logarithmic earthquake magnitude and exponential energy release, and the nonlinear increase in rare heavy-precipitation frequency with warming. Fourth, it retains a six-level capability-to-attribution ladder and a separate governance layer. Fifth, because disaster interpretation is also shaped by worldview, it adds a bounded Christian eschatological layer that tests correspondence with biblical end-time texts without treating theological interpretation as a substitute for hazard physics or event-specific causation.

The study asks four questions:

RQ1. Does the integrated 2019-12 September 2026 period differ from pre-2019 expectations in disaster frequency, physical hazard intensity, spatial or energetic magnitude, mortality, affected population, economic consequences, compound cascades, or upper-tail extremity?

RQ2. Are post-2018 changes coherent across hazards and dimensions, or are they hazard-specific and metric-specific; and does the evidence independently support a further break around 2025?

RQ3. For hazards or events attracting intervention claims, how far does evidence progress from demonstrated environmental-modification capability toward scalable mechanism, deployment, physical signature, counterfactual exclusion, and actor linkage?

RQ4. How do contemporary governance documents frame interconnected environmental risks, and what evidence supports crisis instrumentalization, transparency deficits, or governance expansion as distinct from physical crisis production?

RQ5. To what extent can the observed convergence of severe and compound hazards be interpreted as corresponding to Christian end-time prophecy, especially the biblical birth-pains motif, while preserving a strict boundary between theological correspondence, scientific causation, and claims of definitive prophetic fulfilment?

Five falsifiable or boundary-setting expectations guide the analysis. H1 predicts that at least one major dimension of the 2019-2026 post-2018 hazard regime differs

from pre-2019 expectations. H2 predicts heterogeneity rather than a uniform increase across frequency, physical magnitude, mortality, affected population, and loss. H3 predicts a distinct further escalation after 2025 only if multiple independent indicators, not a single disaster-count series, change coherently. H4 predicts that governance documents will show crisis-linked coordination and reform discourse more readily than evidence of physical disaster manufacture. H5 predicts that a defensible Christian eschatological interpretation, if supported, will rest on convergence, severity, cascading effects, and increasing upper-tail risk rather than on a claim that every hazard count rises monotonically. Failure of H2 or H3 is treated as theory-relevant negative evidence rather than buried as a limitation.

2. Literature Review and Conceptual Foundations

2.1 Weather modification, environmental warfare, and the scale problem

Weather modification refers to deliberate attempts to influence local or regional atmospheric processes. The best-established operational techniques use cloud seeding to enhance precipitation, disperse fog, or suppress hail under suitable meteorological conditions. WMO (2025) reports operational programs in more than 50 countries while emphasizing that efficacy depends strongly on cloud microphysics, background conditions, experimental design, and the difficulty of separating seeded effects from natural variability. The organization's assessment draws an important scale boundary: demonstrated techniques do not provide a scientifically established means of creating large weather systems from clear skies, redirecting major wind fields, or controlling tropical cyclones.

Historical experience nevertheless shows that weather can be treated strategically. A 13 January 1967 U.S. Department of State memorandum concerning Project Popeye records Department of Defense proposals to induce sustained rainfall over routes in North Vietnam and Laos in order to impede traffic. The memorandum described more than 50 cloud-seeding experiments and reported rainfall following a large proportion of seeded clouds, while also acknowledging uncertainty in spatial extent and collateral effects (U.S. Department of State, 1967). The episode is important because it establishes both military intent and operational deployment at a local-to-regional scale. The subsequent Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) prohibited hostile environmental manipulation producing widespread, long-lasting, or severe effects and defined environmental modification broadly as deliberate manipulation of natural processes (United Nations Office for Disarmament Affairs [UNODA], 1976).

The existence of ENMOD is therefore neither proof that every prohibited capability is operational nor evidence that contemporary extreme events are engineered. Its evidentiary value is narrower and stronger: hostile environmental modification is a recognized category of international security law because deliberate environmental manipulation has historical and strategic precedent. A credible modern attribution must still demonstrate mechanism, scale, deployment, signature, counterfactual insufficiency, and actor linkage.

2.2 Solar geoengineering: research, proposals, and governance uncertainty

Solar geoengineering, often called solar radiation modification (SRM), comprises proposed interventions intended to increase Earth's reflectivity or otherwise reduce absorbed solar energy. Stratospheric aerosol injection and marine cloud brightening are among the most discussed proposals. Modelling studies demonstrate that sufficiently large interventions could alter global and regional temperature and precipitation patterns, but effects would be heterogeneous and accompanied by substantial uncertainty, termination risks, and geopolitical implications (NASEM, 2021; Robock et al., 2008; Royal Society, 2009). Governance literature has accordingly shifted from asking whether SRM deserves oversight to debating what forms of research governance, transparency, international coordination, and deployment control are legitimate (Jinnah & Dove, 2025; Reynolds, 2019).

A key evidentiary distinction follows. Modelling and small-scale experimentation establish scientific capability to study or perturb bounded atmospheric processes. They do not establish secret global deployment. The U.S. Government Accountability Office (GAO, 2026b) reported that federal oversight of emerging solar-geoengineering activities remains limited and that no comprehensive international regulatory consensus exists. This governance gap is a valid policy concern precisely because uncertainty exists about future experimentation and potential deployment. Converting the gap itself into evidence of covert deployment would be circular reasoning.

2.3 Ionospheric research, directed energy, and alleged wildfire mechanisms

The High-frequency Active Auroral Research Program (HAARP) is frequently invoked in claims about weather control and wildfire ignition. The facility's documented purpose is ionospheric research using a high-frequency transmitter array. Its own technical description states that the transmitted radio frequencies interact with ionospheric plasma rather than the lower atmosphere where ordinary weather develops. A hypothesis that HAARP generates storms or directs electrical discharges to ignite terrestrial fires therefore faces a scalability and

propagation burden before event attribution is considered.

Directed-energy weapons, by contrast, are established technologies. Congressional Research Service assessments document high-energy laser and high-power microwave systems intended primarily for counter-unmanned-aircraft, sensor disruption, and missile-defense applications (DiMascio et al., 2024; Sayler, 2026). The existence of a weapon capable of depositing energy at a target does not establish that a wildfire was initiated by such a system. Event attribution would require at minimum evidence of operational presence, line-of-sight feasibility, energy delivery sufficient for ignition under observed conditions, a compatible physical signature, and a traceable actor or platform. No such chain has been established for the 2025 wildfire cases assessed below.

2.4 Anthropogenic seismicity and the distinction between local mechanism and remote weapon

Human-induced seismicity is one area where causal anthropogenic effects are firmly established. Wastewater disposal, hydraulic stimulation, reservoir impoundment, mining, geothermal operations, and extraction can alter subsurface stresses and pore pressures sufficiently to trigger earthquakes on faults near critical failure (Ellsworth, 2013; Foulger et al., 2018; Keranen & Weingarten, 2018; U.S. Geological Survey [USGS], 2022). These mechanisms are local or regional, geologically constrained, and measurable.

This literature is important for two reasons. It prevents the categorical claim that earthquakes are necessarily beyond human influence, but it also shows why a leap to remote "seismic weapons" is methodologically unjustified. Demonstrated induced seismicity requires a physical coupling pathway between industrial activity and stressed faults. A proposed remote electromagnetic or atmospheric trigger must demonstrate an alternative coupling mechanism, adequate energy, temporal and spatial coincidence, and event-specific evidence. Without that bridge, anthropogenic seismicity is evidence for a limited class of mechanisms, not for generalized remote earthquake engineering.

2.5 Climate change, storms, and fire weather

Observed and projected changes in climate provide strong competing explanations for some hazard trends and, crucially, show why magnitude can accelerate without event counts doing so. Seneviratne et al. (2021) conclude that the frequency and intensity of heavy precipitation have likely increased globally over most well-observed land regions, with human influence likely the principal global driver. Atmospheric moisture capacity increases by about 7% per 1°C of warming over the relevant range, while the frequency of rare heavy-precipitation events increases nonlinearly with additional warming and rises more sharply for rarer events. Tropical-cyclone physics is also nonlinear: accumulated cyclone energy sums squared maximum winds over time, so changes in wind speed have disproportionate effects on the integrated intensity metric. Knutson et al. (2020) synthesize evidence that warming is expected to increase tropical-cyclone rainfall rates and the proportion of high-intensity storms, while total global cyclone frequency may decrease or remain uncertain. Klotzbach et al. (2022) likewise report declining global hurricane counts and ACE over 1990-2021 alongside increases in very rapid intensification and damage. The inference is decisive: a hazard regime can become more consequential in its upper tail without a monotonic increase in event counts.

Wildfire attribution is similarly multicausal. Jones et al. (2022) document widespread increases in fire-weather severity and duration associated with climate change while showing that burned area is jointly shaped by fuel availability, ignition, land management, suppression, human settlement, and ecosystem conditions. The January 2025 Los Angeles fires illustrate this causal layering: a preceding wet period increased vegetation, an exceptionally dry autumn cured fuels, and extreme Santa Ana winds supported rapid spread (NOAA Climate.gov, 2025). Later official investigations classified the Palisades Fire as arson and the Eaton Fire as electrical in origin (California Department of Forestry and Fire Protection [CAL FIRE], 2026a, 2026b). These ignition findings strongly constrain claims that the two emblematic fires were initiated by directed-energy weapons, even while broader climate and land-management contributions remain relevant to disaster severity.

2.6 Disaster attribution, uncertainty, and the epistemology of extraordinary claims

Event attribution asks how much a causal factor altered the probability or intensity of an event relative to a counterfactual world. Modern weather-attribution science combines observations, physical understanding, and model ensembles rather than treating temporal coincidence as causality (Otto, 2023). The same logic should govern contested claims about deliberate environmental modification.

This requirement becomes especially important when evidence is politically polarized. Research on conspiracy beliefs shows that crises can intensify agency detection, distrust, motivated reasoning, and alternative explanatory narratives (Douglas et al., 2017, 2019; van Prooijen & Douglas, 2017). Barkun's (2015) concept of stigmatized knowledge, however, reminds analysts that social marginalization of a claim is not itself evidence of falsity. The symmetrical methodological rule is therefore to reject both institutional credulity and conspiratorial credulity. Institutional status does not convert an assertion into

proof, while opposition to institutional narratives does not increase the truth value of an alternative claim.

2.7 Crisis governance and instrumentalization

Governance research provides a separate analytical pathway. Crises create conditions in which actors compete to frame problems, assign responsibility, and advocate institutional change. Boin et al. (2009) define crisis exploitation as the political and policy effects of framing contests following disruptive events. This literature does not require that a political actor create the initiating crisis. Indeed, its explanatory value lies in showing how independently occurring crises can alter policy opportunity structures.

This distinction also aligns with disaster-risk-creation scholarship. Muir and Opdyke (2024) define risk creation as human processes that generate or exacerbate hazard, exposure, or vulnerability, while McAdoo et al. (2026) argue for transdisciplinary risk-reduction approaches that integrate changing Earth systems with social and technical systems. These perspectives are compatible with a layered causal account: human agency may alter background hazard, exposure, vulnerability, emergency response, or post-crisis governance without establishing deliberate manufacture of the initiating physical event.

Contemporary global-governance documents use explicit language of interdependence and coordinated response. The United Nations Pact for the Future states that many contemporary challenges are deeply interconnected, exceed the capacity of individual states, and require sustained international cooperation and strengthened multilateral institutions (United Nations, 2024). World Economic Forum material associated with the Great Reset likewise framed the COVID-19 crisis as an opportunity to reconsider economic and social systems and accelerate institutional and digital transformation (World Economic Forum, 2020). These documents are legitimate evidence of crisis-linked reform agendas. They are not evidence that the institutions concerned manufactured floods, fires, or earthquakes. The distinction between crisis instrumentalization and crisis production is therefore analytically indispensable.

2.8 Christian eschatology, disaster interpretation, and evidentiary boundaries

Disasters are not interpreted in an epistemic vacuum. Disaster-risk scholarship shows that religious belief can shape hazard interpretation, risk perception, emotion, coping, and response (Sun et al., 2018). Within a Sola Scriptura Christian framework, the principal eschatological texts relevant to the present analysis include Jesus' warning of wars, famines, and earthquakes in various places, which he identifies as the beginning of labor pains (Matthew 24:7-8), the parallel expectation of great earthquakes, famines, pestilences, and terrifying phenomena (Luke 21:11), and the description of distress associated with the roaring of sea and waves and fear concerning what is coming upon the world (Luke 21:25-26). Paul's image of creation groaning together in labor pains provides a broader theological frame for creation under disorder (Romans 8:22).

The labor-pains metaphor is relevant to magnitude analysis because it describes progression toward a climax, but Scripture does not supply a modern statistical functional form and therefore does not authorize the researcher to label every annual fluctuation an escalation. The empirical analogue must be tested through severity, upper-tail intensity, geographic convergence, compounding, and systemic consequences as well as frequency. Later apocalyptic passages describe qualitatively greater judgments, including a great earthquake (Revelation 6:12), severe ecological and atmospheric judgments (Revelation 8:7-12), and an earthquake of extraordinary severity together with other terminal judgments (Revelation 16:18-21). Present disasters should therefore not be equated automatically with these specific trumpet- or bowl-judgment scenes. The academically and exegetically defensible question is narrower: whether the contemporary pattern can be described as a precursory or analogical convergence consistent with the birth-pains motif, while the definitive fulfilment of specified eschatological judgments remains textually distinct.

This boundary protects both science and theology. Scientific datasets can test whether hazards, impacts, or tails are changing, but cannot by themselves prove divine intent or prophetic timing. Conversely, theological conviction cannot identify the physical cause of a particular wildfire, flood, earthquake, or eruption. The present study therefore treats eschatological correspondence as an interpretive layer that is analytically downstream from hazard measurement and physically separate from the CAAG attribution ladder.

3. The CAAG Framework

3.1 Four analytically separate layers

Figure 1 presents the Capability-Anomaly-Attribution-Governance (CAAG) framework. The framework is sequential but not deterministic. Capability asks what a technology demonstrably can do. Anomaly asks whether a physical or disaster-reporting metric departs from defensible expectations. Attribution asks what caused a particular event and requires evidence of scale, deployment, signature, counterfactual inadequacy, and actor linkage. Governance asks how risk and crisis are subsequently framed, regulated, coordinated, exploited, or institutionalized. Each transition requires new evidence; a finding at one layer cannot be imported as proof at the next.

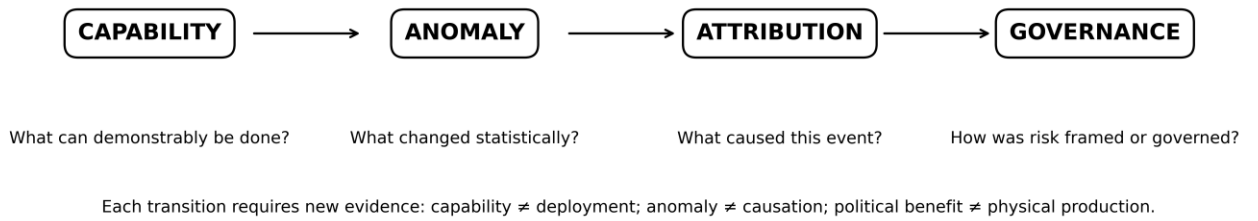

Figure 1. Capability-Anomaly-Attribution-Governance (CAAG) framework. Each transition requires additional evidence; no stage is proof of the next.

The framework responds to a recurrent causal fallacy. If cloud seeding exists (Capability), and storms are unusually frequent (Anomaly), it does not follow that cloud seeding produced the storms (Attribution). If an institution subsequently invokes those storms to advocate coordinated governance (Governance), that does not retroactively establish that the institution caused them. The framework therefore requires an evidentiary reset at each transition rather than allowing suspicion, temporal sequence, or political benefit to substitute for causal identification.

3.2 Crisis production, amplification, exploitation, and instrumentalization

A second distinction concerns what "human-caused" means. Figure 2 separates a natural hazard from anthropogenic background influence, disaster amplification, operational environmental modification, hostile intervention, crisis exploitation, and crisis instrumentalization. These categories may coexist, but they answer different questions.

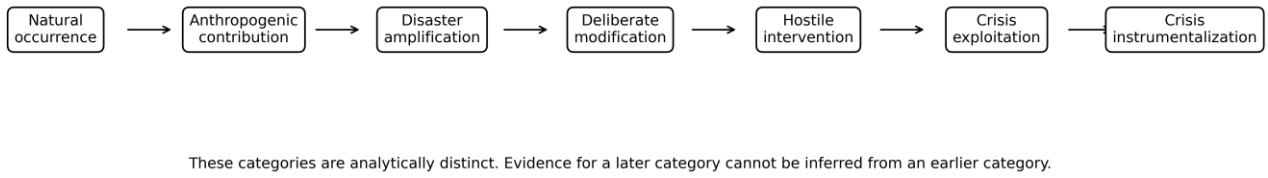

Figure 2. Crisis production-instrumentalization typology. The categories distinguish physical causation from political use and should not be collapsed into a single "engineered crisis" claim.

For example, a wildfire can have an arson ignition, climate-conditioned fire weather, infrastructure-related spread, and subsequent political exploitation without requiring a directed-energy explanation. Conversely, a documented cloud-seeding operation could physically alter local precipitation without being hostile or connected to a global-governance agenda. A rigorous study must disaggregate these pathways.

4. Data and Methods

4.1 Research design and data freeze

The study is a secondary-data, mixed-method evidence audit with seven linked components: (1) a period-level occurrence and consequence analysis for the integrated post-2018 window; (2) hazard-specific physical-magnitude analysis using tropical-cyclone, wildfire, earthquake, volcanism, flood, drought, and temperature indicators; (3) completed-2025 anomaly screening; (4) 2026 same-period surveillance where comparable data existed; (5) forensic capability-to-attribution assessment; (6) documentary analysis of crisis governance; and (7) a bounded Christian eschatological correspondence analysis. The data freeze was 12 September 2026. No human participants were recruited and no personally identifiable data were processed.

The primary temporal estimand is 1 January 2019 through 12 September 2026 as a single post-2018 period. Complete annual metrics are used for 2019-2025. The 2026 component is explicitly year-to-date and is compared only with same-period, record-period, or institutional long-term benchmarks where available. Current-event observations were frozen on 12 September and are labeled as provisional when response operations or official figures were still evolving. The analysis does not assume that 2019 was a preparation phase or that 2025 initiated a new implementation phase. Those dates are treated as candidate internal discontinuities whose credibility depends on cross-metric convergence.

4.2 PRISMA-structured evidence mapping

PRISMA 2020 was used as a transparency structure for the literature and documentary evidence stream rather

than as a claim that the complete mixed-method study is a systematic review (Page et al., 2021). Search reporting followed PRISMA-S principles (Rethlefsen et al., 2021). Search families covered weather modification and cloud seeding; solar geoengineering; environmental warfare and ENMOD; induced seismicity; wildfire and tropical-cyclone attribution; ionospheric research; directed-energy capability; disaster databases; crisis exploitation; and global governance. The magnitude extension added an exact-title and citation-chain search for global tropical-cyclone intensity trends. Searches, dates, strings, source strata, and eligibility rules are reproduced in the Supplementary Materials.

Records were included when they materially informed hazard measurement, demonstrated environmental-modification capability, physical scaling, event attribution, governance/crisis instrumentalization, or the epistemology of contested causal claims. Records were excluded if topically remote, duplicative in evidentiary function, unverifiable, purely rhetorical without primary support, or materially weaker than an available primary source. The final flow was: 192 records identified and screened; 111 relevance exclusions; 81 full texts or documents assessed; 14 full-text exclusions; and 67 records retained. A record documenting a technology could establish capability but could not by itself establish event-specific intervention. The structured evidence-map flow remains fixed at 192 screened records and 67 retained records. Two peer-reviewed analytical anchors added during the 12 September update, Seneviratne et al. (2021) for nonlinear climate extremes and Sun et al. (2018) for religion-disaster interpretation, are disclosed as post-screening contextual additions rather than retrospectively altering the screening ledger.

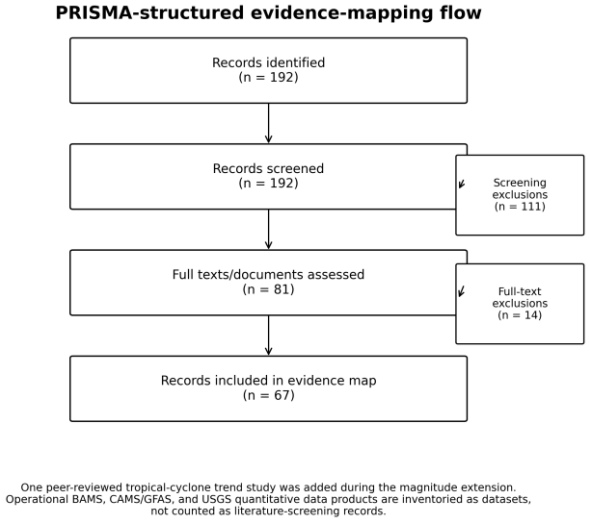

Figure 3. PRISMA-structured evidence-flow diagram. Operational quantitative data products are reported in a separate source inventory rather than counted as literature-screening records.

4.3 Multidimensional outcome architecture

Disaster frequency and disaster severity were treated as distinct constructs. Frequency comprised reported disaster occurrence or physical-event count. Physical magnitude comprised hazard-specific measures that are closer to the underlying process, including global tropical-cyclone ACE, number of named cyclones, wildfire carbon emissions derived from fire radiative power, and earthquake maximum magnitude and cumulative seismic-energy proxy. Consequence magnitude comprised deaths, people affected, and reported economic losses. Upper-tail extremity was assessed descriptively using record or near-record regional fire emissions, maximum earthquake magnitude, high-end rapid-intensification evidence, and unusually consequential annual outcomes.

This separation addresses a central identification problem. Economic losses can rise because of inflation, asset accumulation, coastal development, insurance penetration, or exposure even if physical hazards do not intensify. Mortality can fall because of warning, preparedness, evacuation, building standards, and medical response even if hazards intensify. Conversely, a stable annual count can coexist with a fatter upper tail. No composite severity index was used as the primary outcome because weighting heterogeneous physical and socioeconomic dimensions would embed contestable value judgments. Dimensions are therefore reported separately, with normalized ratios used only for descriptive synthesis.

4.4 Disaster occurrence, human impact, and economic consequence data

CRED/EM-DAT annual reports supplied 2019-2025 reported disaster totals, deaths, people affected, and economic losses. Because historical annual-report comparators evolve and EM-DAT records are revised, the primary analysis reports the observed post-2018 annual series and a transparent sensitivity baseline rather than treating a reconstructed historical mean as an immutable population parameter. For contextual period comparison, the CRED-UNDRR 2000-2019 report totals were annualized after subtracting the 2019 values, yielding approximate 2000-2018 means of 365.9 reported disasters, 64,118 deaths, 207.1 million people affected, and US$150.9 billion in economic losses. The latter three baselines inherit rounding from the published 20-year totals and are explicitly treated as approximate contextual benchmarks.

For 2025, the completed CRED report also supplied hazard-specific event counts and 2005-2024 annual means. These data were used for the previously specified Poisson rate-ratio screen with Benjamini-Hochberg false-discovery-rate correction. The 2025 screen is retained because it tests the narrower proposition of a further aggregate escalation inside the broader post-2018 period.

4.5 Physical-magnitude data

Tropical-cyclone physical magnitude was evaluated from annual State of the Climate tropical summaries

based on the International Best Track Archive for Climate Stewardship (IBTrACS) (Blunden & Arndt, 2020; Blunden & Boyer, 2021; Diamond & Schreck, 2022, 2023, 2024, 2025, 2026). Named tropical-cyclone counts and global accumulated cyclone energy were extracted for 2019-2025. ACE integrates storm intensity and duration through the sum of squared 6-hourly maximum sustained winds and therefore supplies substantially more physical information than disaster declarations. The annual named-storm climatology was 87 for 1991-2020. Published global trend evidence from Klotzbach et al. (2022) was used to contextualize rapid intensification and longer-run ACE behavior. The 2026 global cyclone season was incomplete at the data freeze and was not converted into a misleading partial-year annual ACE comparison.

Wildfire physical magnitude was assessed using Copernicus Atmosphere Monitoring Service Global Fire Assimilation System (CAMS/GFAS) estimates. GFAS assimilates satellite-observed fire radiative power to estimate fire intensity and emissions. Annual or near-annual global carbon-emission estimates were compiled for 2019-2025, and record regional seasons were identified as upper-tail indicators. The interpretation distinguishes global total emissions from regional extremity because CAMS documents years in which severe regional fire seasons coexist with ordinary or declining global emissions.

Earthquake magnitude was assessed from USGS global M7+ annual lists. For each complete year 2019-2025, the analysis records M7+ frequency and maximum magnitude; 2026 is reported through 12 September. A descriptive cumulative seismic-energy proxy was calculated from $\log10(E) = 1.5M + 4.8$, where E is energy in joules. This relationship is critical to the present study because energy release grows exponentially with moment magnitude: a one-unit increase corresponds to approximately 31.6 times more energy, while a 1.8-unit difference corresponds to roughly 500 times more energy. The transformation is nevertheless dominated by the largest event and is used descriptively, not as a causal test. USGS long-term records indicate an expectation of approximately 16 M7+ earthquakes per year, including about 15 in the magnitude-7 range and one M8+ event.

Volcanism remained a negative-control category using Smithsonian Global Volcanism Program eruption-start data. Unlike disaster occurrence databases, specialist volcanic monitoring directly tracks geophysical activity but is still affected by observation improvements. Smithsonian cautions against interpreting improved detection as a secular increase in global volcanism.

4.6 Statistical and comparative analysis

The analysis is deliberately tiered. First, complete-year 2019-2025 means are compared descriptively with authoritative pre-2019 or climatological benchmarks. Second, the 2025 hazard-class screen uses Poisson rate ratios and 95% confidence intervals with false-discovery-rate correction. Third, physical-magnitude series are evaluated for direction, variability, and upper-tail behavior rather than forcing a single trend coefficient through seven observations. Fourth, contradictory dimensions are treated as evidence against a unitary regime hypothesis. For example, higher occurrence coupled with lower mortality is not averaged into a single score that obscures the disagreement.

The short post-2018 window, changing database vintages, and lack of a harmonized event-level global archive in the supplied replication environment do not support a defensible Bai-Perron, generalized extreme-value, or covariate-adjusted breakpoint model. Accordingly, 2019 and 2025 are not declared structural breaks. The study instead specifies what a future event-level replication must estimate: negative-binomial occurrence models, quantile or extreme-value models for upper-tail severity, exposure-normalized loss models, and breakpoint-agnostic change-point procedures using a fixed database vintage. This restraint is part of the identification strategy rather than a missing analysis disguised as certainty.

4.7 2026 year-to-date surveillance and comparability

No final harmonized 2026 global EM-DAT annual report existed at the data freeze. First-half economic and insured-loss estimates from Munich Re and Swiss Re were therefore treated as surveillance indicators rather than frequency estimates. USGS M7+ counts were updated through 12 September. CAMS and Copernicus Climate Change Service near-real-time products were used for 2026 fire, heat, hydrological, and drought surveillance, while official Nepal Government and WHO updates were used for the 26 August Bhote Koshi flood. Smithsonian/USGS weekly volcanic reports supplied current eruption observations. These sources are not forced into full-year comparisons. Their role is to identify current upper-tail magnitude, compounding, and cross-hazard convergence while preserving the difference between provisional 2026 surveillance and complete annual series.

4.8 Capability-to-attribution assessment

Contested intervention claims were evaluated using a pre-specified six-level evidence ladder. Level A, capability, asks whether the mechanism demonstrably exists. Level B, scalability, asks whether the demonstrated mechanism could produce an effect of the observed order of magnitude. Level C, deployment, requires credible evidence that relevant equipment, aircraft, programs, experiments, or operators were active at the relevant place and time. Level D requires a predicted physical signature. Level E requires quantitative inadequacy of conventional counterfactual explanations.

Level F requires actor linkage through documentary, operational, financial, procurement, communications, flight, satellite, legal, or corroborated whistleblower evidence. The highest defensible level, not the most dramatic allegation, determines the attribution category.

4.9 Governance-document analysis

The governance analysis used purposive primary-document sampling rather than treating every international-cooperation document as evidence of centralization. Principal documents included the UN Pact for the Future, WMO weather-modification materials, GAO weather-modification oversight findings, ENMOD, and World Economic Forum Great Reset materials, contextualized by governance and crisis-exploitation scholarship. Documents were coded for interdependence, transboundary risk, multilateral cooperation, governance reform, resilience, emergency response, public-private coordination, digital infrastructure, and oversight. A second interpretive code distinguished descriptive coordination, normative convergence, institutional centralization, and evidence of causal command. Co-occurrence of governance language and a disaster was never treated as proof of disaster manufacture.

4.10 Reproducibility and source control

The replication package contains the annual CRED impact series, post-2018 period summary, tropical-cyclone frequency and ACE series, CAMS/GFAS wildfire-emission series, earthquake magnitude and energy series, completed-2025 hazard screen, volcanism negative-control series, 2026 loss indicators, PRISMA screening ledger, quantitative-source inventory, and scripts used to regenerate derived statistics and figures. Each data table identifies coverage limitations. Quantitative operational data products are separated from literature-screening records so that PRISMA counts are not inflated by annual dataset updates.

4.11 Eschatological correspondence protocol

The eschatological analysis applies three boundaries. First, textual specificity requires that the proposed correspondence arise from the biblical text itself, principally Matthew 24:7-8, Luke 21:11, and related passages, rather than from numerology or date-setting. Second, empirical correspondence asks whether the measured pattern concerns severity, convergence, compounding, or upper-tail behavior rather than merely a visually salient sequence of events. Third, non-equivalence prevents an observed modern disaster from being declared the definitive fulfilment of a specific apocalyptic judgment when the textual conditions of that judgment are not met. The method can therefore identify consistency or analogy, but not divine causation, prophetic date certainty, or physical-event attribution.

5. Results

5.1 The integrated post-2018 period shows a modest frequency shift, not a universal severity shift

Across the seven complete years 2019-2025, EM-DAT recorded an annual mean of 393.4 natural-hazard disasters. The approximate 2000-2018 baseline reconstructed from CRED-UNDRR published totals is 365.9 per year, giving a descriptive ratio of 1.075, or 7.5% higher occurrence in the post-2018 complete-year period. The result is directionally consistent with the earlier annual-report transition screen, but it is not interpreted as proof of an abrupt 2019 structural break because the baseline is reconstructed from rounded historical totals and because database reporting evolves.

Table 1. Frequency and consequence magnitude in CRED/EM-DAT annual reports, 2019-2025.

Year	Reported disasters	Deaths	Affected (millions)	Economic loss (US$ bn)
2019	396	11,755	94.9	103.00
2020	389	15,080	98.4	171.30
2021	432	10,492	101.8	252.10
2022	387	30,704	185.0	223.80
2023	399	86,473	93.1	202.70
2024	393	16,753	167.2	241.95
2025	358	16,607	110.2	169.68

Note. Annual reports and database vintages can be revised; economic-loss estimates are exposure- and valuation-sensitive.

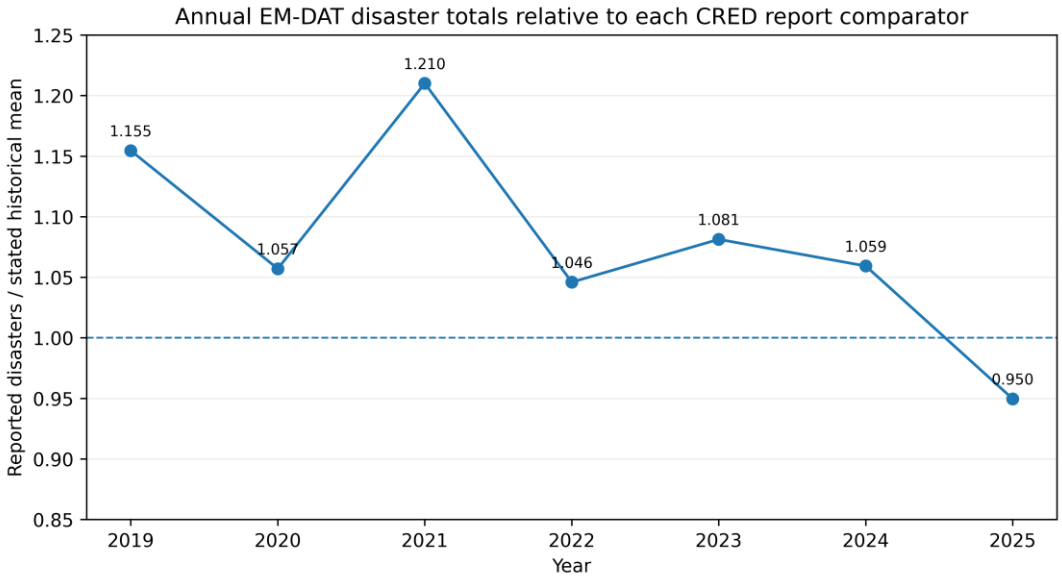

Figure 4. Completed annual EM-DAT disaster totals relative to each CRED annual report comparator, 2019-2025. Comparator windows change by report, so this is a sensitivity visualization rather than a fixed-vintage structural-break series.

5.2 Human consequences moved downward while reported economic losses moved upward

The magnitude extension changes the interpretation materially. Mean annual mortality during 2019-2025 was 26,838, compared with an approximate 2000-2018 annualized baseline of 64,118, a ratio of 0.42. Mean annual affected population was 121.5 million versus an approximate baseline of 207.1 million, a ratio of 0.59. The 2023 mortality spike to 86,473 is an important upper-tail exception driven primarily by the Türkiye-Syria earthquake, but it does not convert the seven-year mortality series into a generalized upward regime. Improvements in preparedness, warning, response, and the composition of events can all contribute to declining consequence measures even under changing physical hazards.

Reported annual economic losses moved in the opposite direction. The 2019-2025 mean was US$194.9 billion versus an approximate 2000-2018 annualized benchmark of US$150.9 billion, a ratio of 1.29. This is a consequential risk-management result but not a clean physical-severity estimator. Asset growth, urbanization, insurance penetration, inflation treatment, exposure concentration, and reporting completeness influence monetary loss. The divergence between mortality, affected population, and economic loss directly falsifies any simple claim that a single scalar "disaster magnitude" rose uniformly after 2018.

Table 2. Multidimensional post-2018 period comparison.

Dimension	Approx. 2000-2018 annual mean	2019-2025 annual mean	Ratio	Change
Reported disasters	365.9	393.4	1.08x	+7.5%
Deaths	64,118	26,838	0.42x	-58.1%
People affected	207.1	121.5	0.59x	-41.3%
Economic loss	150.9	194.9	1.29x	+29.2%

Note. Historical baselines are reconstructed from rounded CRED 2000-2019 totals after subtracting 2019 and are contextual sensitivity estimates, not fixed-vintage event-level estimators.

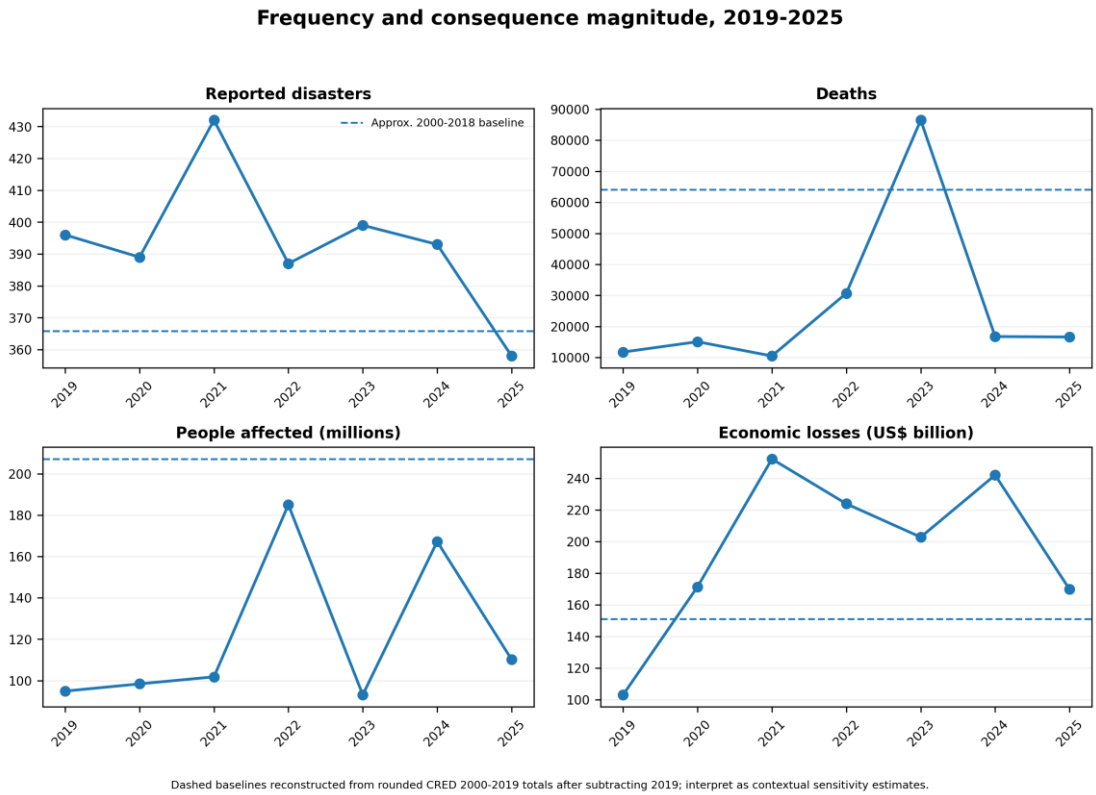

Figure 5. Frequency and consequence magnitude, 2019-2025. Dashed lines are approximate 2000-2018 annualized baselines reconstructed from CRED historical totals.

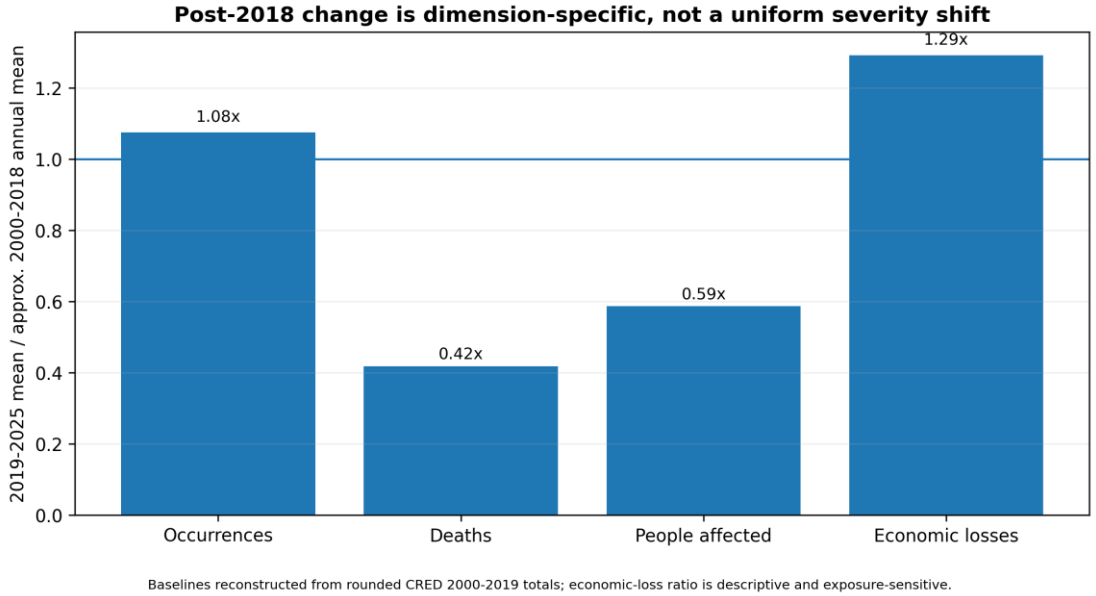

Figure 6. Normalized post-2018 dimension ratios. Occurrence and economic losses are above their contextual baselines, whereas mortality and people affected are below, demonstrating a non-uniform regime.

5.3 Tropical-cyclone magnitude: more named storms, but no monotonic global ACE escalation

Global tropical-cyclone data further reject count-only reasoning. From 2019 through 2025, the annual mean number of named tropical cyclones was 91.6, modestly above the 1991-2020 climatology of 87. Yet mean global ACE was 675 x 10^4 kt^2 and the annual series was highly non-monotonic: 2022 recorded 517, the lowest global ACE since reliable global records began in 1981; 2023 rebounded to 866; 2024 fell to 613; and 2025 reached 711 and was characterized by BAMS as near normal. Thus a higher average named-storm count over this short period does not imply a corresponding sustained increase in integrated storm energy.

The longer 1990-2021 analysis by Klotzbach et al. (2022) is consistent with this heterogeneity. Global hurricane counts and ACE decreased significantly over that period, while high-end rapid intensification events of at least 50 kt in 24 hours increased. Tropical-cyclone damages also increased, largely because coastal assets and exposure increased. For the present study, this is a critical falsification result: the strongest physical-magnitude evidence does not support a simple post-2018 global cyclone-

energy escalation, although upper-tail intensification behavior remains a legitimate and important risk signal.

Table 3. Global tropical-cyclone occurrence and integrated intensity, 2019-2025.

Year	Named tropical cyclones	Global ACE (10^4 kt^2)
2019	96	795
2020	102	574
2021	97	649
2022	85	517
2023	82	866
2024	82	613
2025	97	711

Source: annual BAMS State of the Climate tropical summaries based on IBTrACS. The 1991-2020 named-storm climatology is 87.

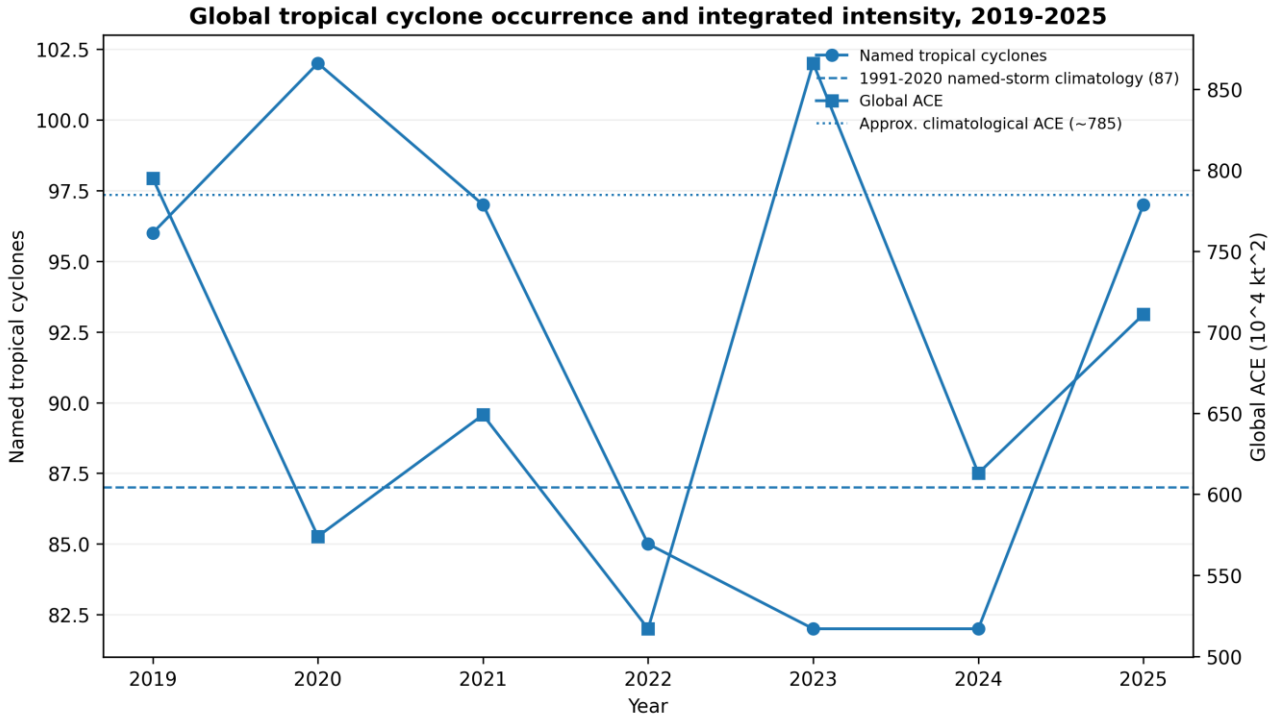

Figure 7. Global tropical-cyclone occurrence and ACE, 2019-2025. The two metrics do not move in parallel, illustrating why named-storm counts cannot substitute for integrated physical intensity.

5.4 Wildfire magnitude: severe regional tails within a non-monotonic global emissions series

CAMS/GFAS observations show the same distinction between global aggregate behavior and regional extremity. Approximately 1,870 Mt of carbon were emitted globally from fires in 2019 and 1,690 Mt in 2020; CAMS described 2020 as one of the lowest global fire-activity years in its record despite unprecedented intensity in several regions. The 2021 estimate was approximately 1,760 Mt. Global emissions rose sharply to about 2,170 Mt in 2023, with Canada alone contributing roughly 480 Mt, almost five times its preceding 20-year average. The 2024 global total was about 1,940 Mt. By the end of November 2025, the global total was approximately 1,380 Mt, below the corresponding January-November 2024 total, even though Europe experienced its highest annual wildfire emissions in the CAMS record and Canada its second-highest.

This pattern is exactly what a multidimensional framework is designed to reveal. A global monotonic wildfire escalation is not observed in the emissions aggregate, yet upper-tail regional fire seasons are unmistakable. Global burned area, fire radiative power, carbon emissions, structure loss, and disaster declarations answer different questions. The 2025 EM-DAT wildfire-count anomaly therefore remains important, but it cannot be generalized into a claim that worldwide wildfire physical intensity increased continuously throughout 2019-2025.

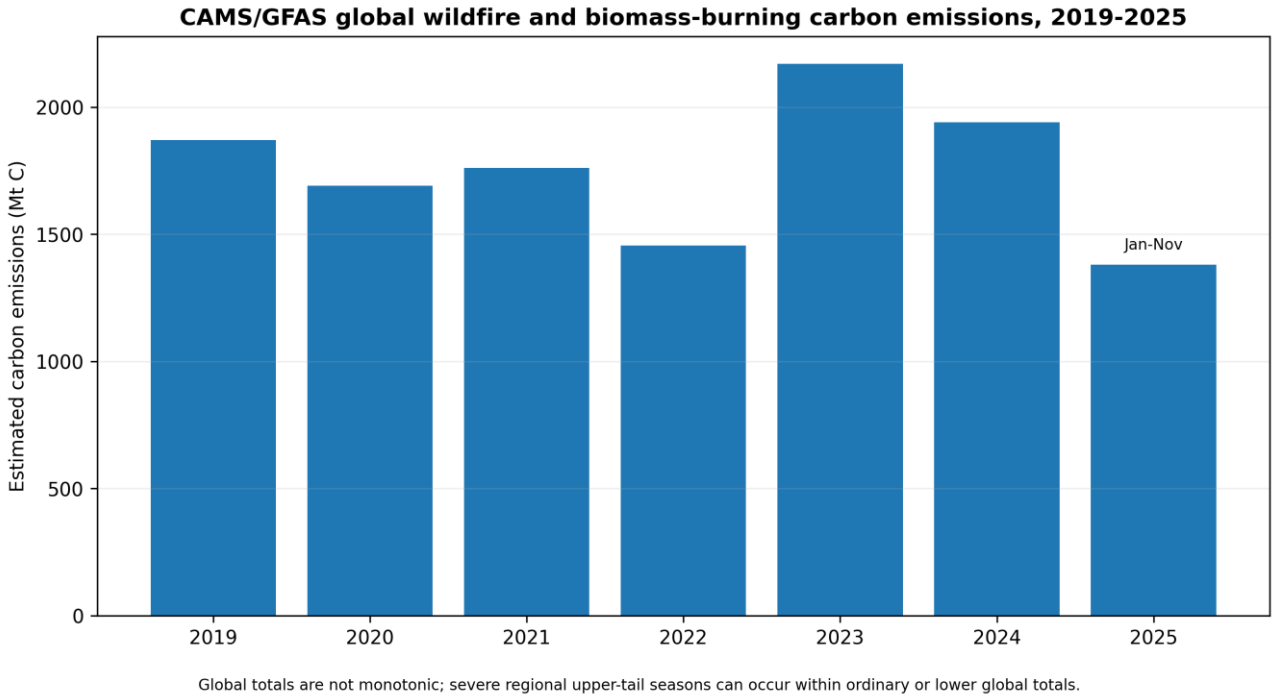

Figure 8. CAMS/GFAS global wildfire and biomass-burning carbon emissions, 2019-2025. The 2025 value is January-November. Regional record seasons coexist with a non-monotonic global series.

5.5 Earthquake magnitude: a rare 2025 upper-tail event without elevated long-run M7+ frequency

USGS large-earthquake records provide an especially useful frequency-versus-magnitude test. Complete-year M7+ counts for 2019-2025 were 10, 9, 19, 11, 19, 10, and 16, respectively, an average of 13.4 per year. USGS long-term records since about 1900 indicate an expectation of approximately 16 major earthquakes per year and explicitly state that naturally occurring global earthquake activity has not shown a secular increase (U.S. Geological Survey [USGS], 2026a). Through 12 September 2026, 11 M7+ earthquakes had occurred, including M7.8 events in the Philippines on 7 June and Indonesia on 14 August and an M7.4 event in Colombia on 10 August (USGS, 2026c). That partial-year count is close to the long-run pace and does not establish a global frequency acceleration.

Magnitude tells a different but compatible story. The 29 July 2025 Kamchatka earthquake reached M8.8 and dominates the annual cumulative seismic-energy proxy because energy release scales exponentially with magnitude. Relative to an M7.0 event, the M8.8 event represents roughly 500 times the radiated-energy proxy; even a one-unit increase implies about 31.6 times more energy. The 11 M7+ earthquakes recorded through 12 September 2026 sum to approximately 1.28 x 10^17 J in the same descriptive proxy, far below the 2025 total of approximately 11.59 x 10^17 J because 2025 contained the M8.8 upper-tail event. Thus the scientifically defensible "exponential" statement concerns the magnitude-energy relationship, not a claim that annual global earthquake occurrence is exponentially increasing.

Table 4. Global M7+ earthquake frequency and magnitude proxies, 2019-12 September 2026.

Year	M7+ count	Maximum M	Cumulative energy (10^17 J)	Coverage
2019	10	8.0	1.16	annual
2020	9	7.8	1.03	annual
2021	19	8.2	4.03	annual
2022	11	7.6	0.59	annual
2023	19	7.8	1.48	annual
2024	10	7.5	0.48	annual
2025	16	8.8	11.59	annual
2026	11	7.8	1.28	Jan-Sep 12

Note. Energy is a descriptive transformation of catalog magnitudes and is dominated by the largest event; 2026 is partial-year.

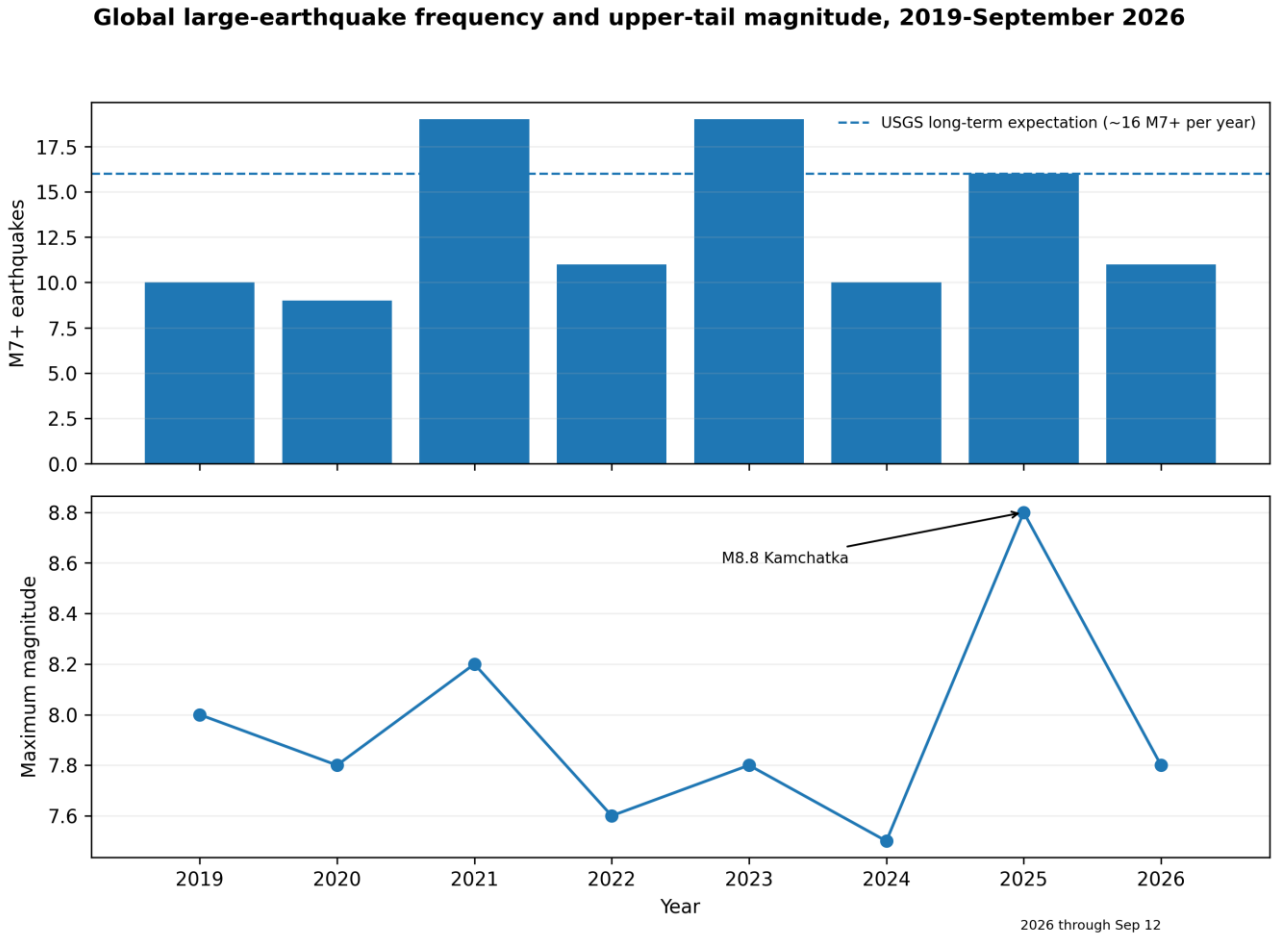

Figure 9. Global M7+ earthquake frequency and annual maximum magnitude, 2019-12 September 2026. The 2025 M8.8 event is an upper-tail magnitude event, not evidence of an increased global M7+ rate.

5.6 The completed 2025 screen rejects a generalized further escalation

Within the broader post-2018 period, 2025 does not show an additional aggregate disaster-count escalation. CRED recorded 358 natural-hazard disasters, compared with a 2005-2024 annual mean of 377. The aggregate rate ratio was 0.950 (95% CI [0.854, 1.056], p = .339). This result is not evidence that 2025 was physically ordinary; it is evidence that a further generalized increase in EM-DAT disaster occurrence is not reproduced in the completed record.

The aggregate null masks hazard heterogeneity. Storm disasters were 44.4% above the historical mean and wildfires 91.7% above it, both remaining significant after false-discovery-rate correction. Floods were 29.6% below the historical mean. Earthquake and volcanic-disaster counts were not significantly elevated. Extreme-temperature reporting was incomplete and is not interpreted as a substantive decline.

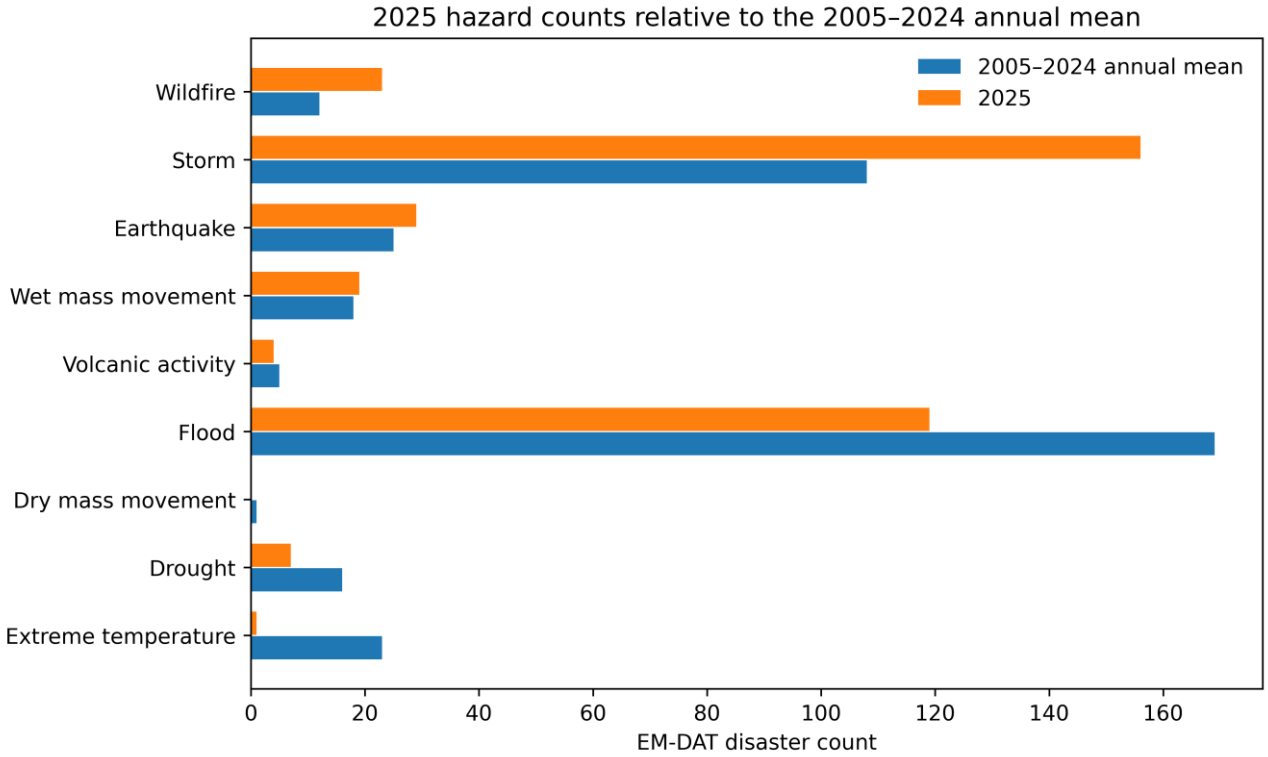

Figure 10. EM-DAT hazard-specific disaster counts in 2025 compared with CRED 2005-2024 annual means. Extreme-temperature reporting was incomplete and is not interpreted causally.

Table 5. 2025 hazard-specific screening against CRED 2005-2024 annual means.

Hazard	2025	Hist. mean	RR	95% CI	p	BH q	Interpretation
Drought	7	16	0.438	0.207-0.925	0.03049	0.05488	No FDR-significant difference
Earthquake	29	25	1.160	0.798-1.687	0.4371	0.6557	No FDR-significant difference
Extreme temperature	1	23	0.043	0.006-0.309	0.001736	0.005207	Reporting incomplete; not interpreted
Flood	119	169	0.704	0.586-0.845	0.0001693	0.0007619	Lower after FDR correction
Dry mass movement	0	1	0.488	0.030-8.066	0.616	0.7444	No FDR-significant difference
Wet mass movement	19	18	1.056	0.665-1.674	0.8183	0.8183	No FDR-significant difference
Storm	156	108	1.444	1.228-1.699	9.186e-06	8.267e-05	Elevated after FDR correction
Volcanic activity	4	5	0.800	0.294-2.173	0.6617	0.7444	No FDR-significant difference
Wildfire	23	12	1.917	1.250-2.940	0.002877	0.006474	Elevated after FDR correction

Note. RR =rate ratio; BH q = Benjamini-Hochberg adjusted p value.

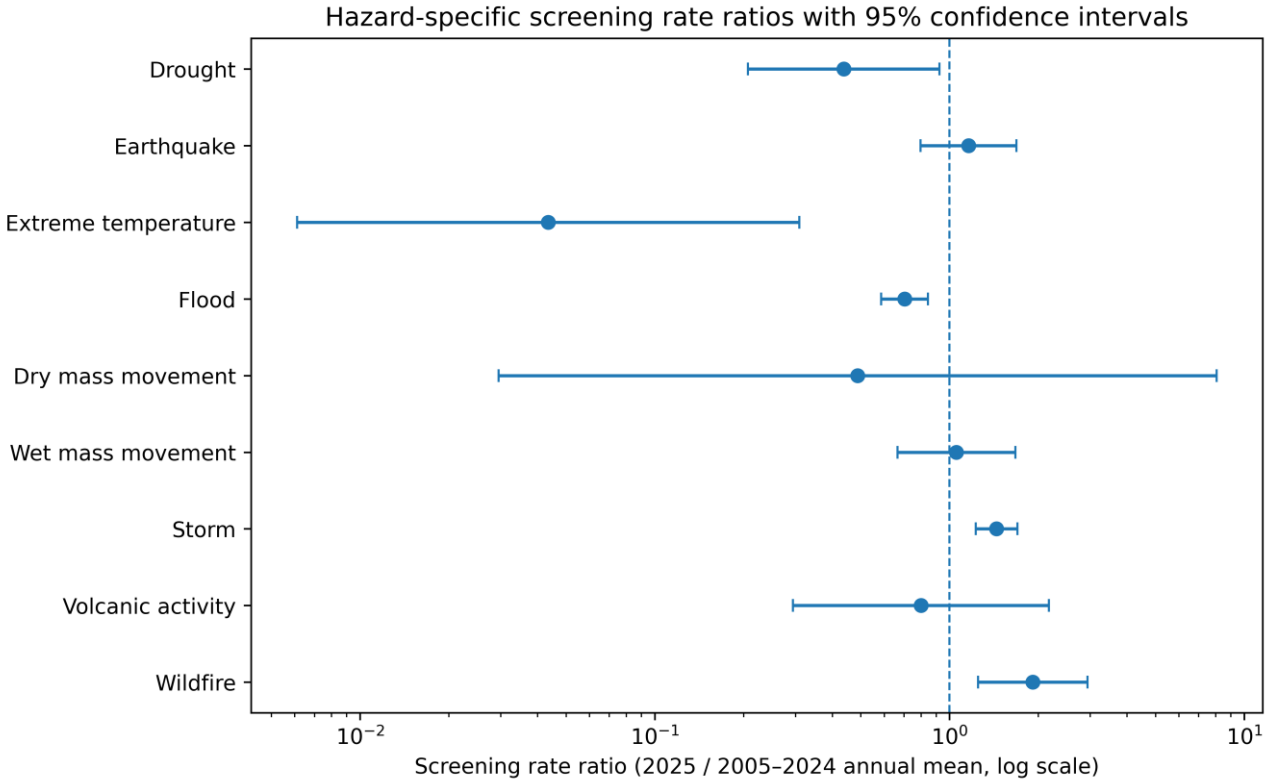

Figure 11. Hazard-specific 2025 rate-ratio screening estimates and 95% confidence intervals. The dashed line denotes RR = 1; extreme temperature is displayed but not substantively interpreted.

5.7 Volcanism remains a negative control

Smithsonian Global Volcanism Program data do not show a coherent post-2018 or post-2025 escalation. New eruption starts fluctuate around the modern observation-era range, and GVP cautions that apparent long-run increases in recorded volcanism largely reflect better monitoring and reporting. Current activity can nevertheless be physically impressive. In the 27 August-2 September 2026 weekly report, Sinabung began a new eruption on 31 August with an ash plume about 3.5 km above the summit, while Ambae produced an ash plume to approximately 12.5 km above sea level on 1 September (Smithsonian Institution Global Volcanism Program, 2026b). These are significant active eruptions, but their occurrence does not demonstrate a secular increase in global volcanism. This negative control remains theoretically important because a thesis predicting synchronous acceleration across unrelated geophysical systems should also explain why the global volcanic baseline does not move coherently.

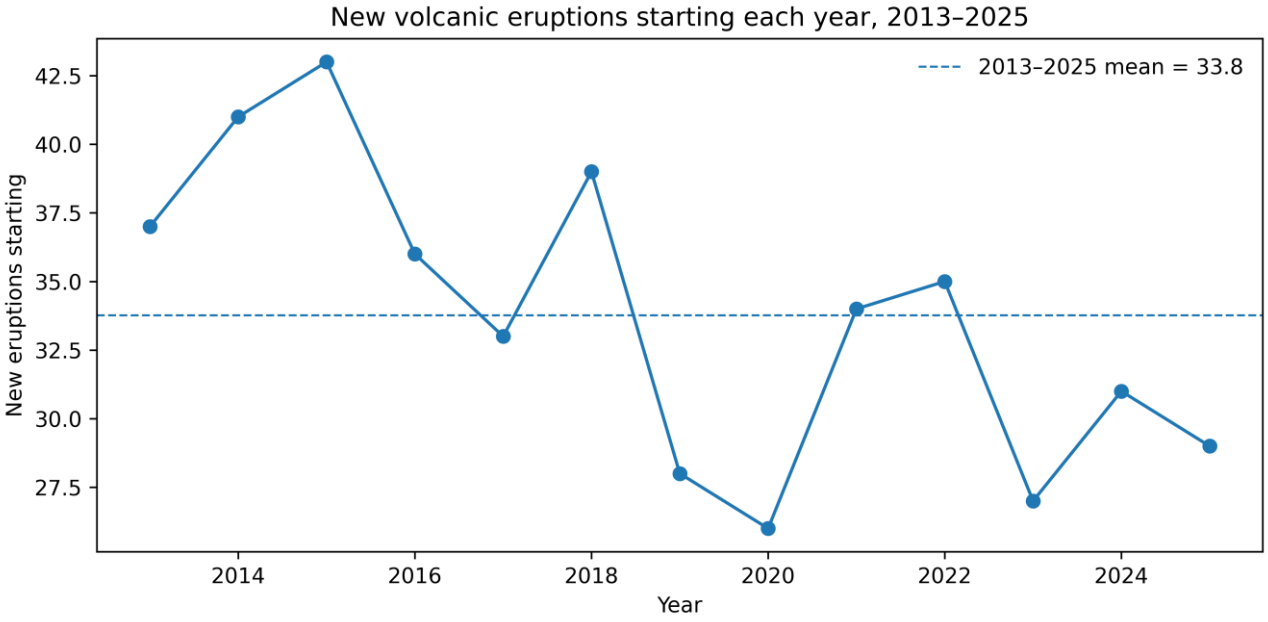

Figure 12. Smithsonian Global Volcanism Program new-eruption starts, 2013-2025. The 2025 value does not indicate a generalized increase relative to the preceding monitoring period.

5.8 September 2026 surveillance shows high-impact convergence, not uniform global acceleration

The updated 2026 surveillance materially strengthens the magnitude analysis while preserving the manuscript's central distinction between upper-tail severity and universal escalation. August 2026 was the warmest August in the ERA5 record at 1.65°C above the estimated 1850-1900 level, and extra-polar sea-surface temperature reached a record August value. WMO also reported 19 tropical storms globally in August, five reaching hurricane or typhoon intensity and four reaching major status, while El Niño was firmly established and forecast to strengthen further (Copernicus Climate Change Service [C3S], 2026; World Meteorological Organization [WMO], 2026a, 2026b). These conditions do not imply that every storm or flood is caused by one mechanism, but they increase the physical background for heavy rainfall, marine heat, drought, and compound extremes.

Flood and drought severity in late 2026 illustrates compounding more clearly than global event counts. On 26 August, a catastrophic surge through Nepal's Bhote Koshi and Trishuli river corridors followed an upstream ice, rock, and soil mass failure and temporary damming, producing a cascade whose physical magnitude was amplified by steep valley geometry, debris, infrastructure exposure, and downstream connectivity. By 11 September, Nepal's Ministry of Foreign Affairs reported 1,385 bodies recovered, approximately 5,130 people still missing, preliminary direct damage of about US$1.8 billion, losses of about US$883 million, and an estimated US$4.78 billion reconstruction requirement (Government of Nepal, Ministry of Foreign Affairs, 2026). This event should not be misclassified as a simple rainfall flood, but it is highly relevant to a magnitude-based disaster framework because it demonstrates how cryosphere, slope failure, temporary damming, river hydraulics, and infrastructure exposure can combine into catastrophic cascading risk.

At the same time, drought and hydrological stress reached exceptional levels across substantial parts of Europe. Copernicus reported widespread low soil moisture and river flow in August, with record-low or exceptionally low seasonal flows affecting long reaches of the Rhine, Danube, Vistula, Seine, Rhône, Loire, and Dnieper, while drought and wildfire impacts persisted across western, central, and southeastern Europe (C3S, 2026). The same month also contained localized heavy-rainfall floods in parts of Europe and outside the tropics. The coexistence of drought and flood extremes in different regions is important: a globally averaged count can conceal simultaneous opposite hydrological tails, and compound heat-drought-fire conditions can increase consequence severity even when the number of drought declarations is not itself unprecedented.

Wildfire surveillance shows the same scale dependence. CAMS reported that global biomass-burning carbon emissions for 1 January-30 June 2026 were the lowest for that period in its 24-year GFAS record and remained the lowest year-to-date total through 20 August, driven substantially by reduced seasonal burning in Africa and Asia (Copernicus Atmosphere Monitoring Service [CAMS], 2026a, 2026c). Yet regional extremes intensified sharply. France recorded 0.89 MtC of wildfire carbon emissions in July, about 39% above the previous July record of 0.64 MtC; Washington and Oregon reached their highest year-to-date emissions in the CAMS record; and fires of exceptional intensity affected parts of western Europe and Indonesia (CAMS, 2026b, 2026c). This apparent contradiction is central to the manuscript's thesis: modern crisis magnitude can grow abruptly at regional and upper-tail scales even while the global aggregate remains ordinary or low.

Geophysical surveillance likewise resists a one-direction narrative. Eleven M7+ earthquakes had occurred by 12 September, close to the long-run global pace, while Smithsonian monitoring documented several active eruptions but no evidence of a rising global volcanic rate. First-half economic losses were also near recent benchmarks rather than explosively higher. Accordingly, 2026 supplies strong evidence of simultaneous and consequential upper-tail crises, but not of a single exponentially increasing global hazard count. The strongest empirical statement is narrower and more defensible: multiple contemporary hazard systems exhibit nonlinear physical scaling, record or near-record regional tails, compound cascades, and expanding consequence potential, while earthquake and volcanic frequency remain essential negative controls.

6. Environmental-Modification Capability versus Attribution

6.1 Capability is established in several domains

Table 6 applies the A-F evidence ladder. Cloud seeding reaches Level A unequivocally and Level B for suitable local orographic and convective settings, while Project Popeye provides a historical case reaching deployment and actor linkage. Solar geoengineering reaches Level A as a research and modelling domain and limited experimental capability, but not as demonstrated covert global deployment. Industrially induced seismicity reaches all levels in particular documented settings where injection histories, fault response, and operators are known. Directed-energy systems reach Level A as weapons technology, but the wildfire cases examined here do not progress to deployment or physical-signature evidence. HAARP reaches Level A as an ionospheric research facility, but the proposed weather-control or wildfire mechanism does not clear the scalability threshold on currently demonstrated physics.

Table 6. Capability-attribution evidence matrix. The highest level applies to the contested 2025-2026 attribution unless otherwise stated; historical or industrial cases can reach higher levels independently.

Mechanism	Demonstrated capability	Scale boundary	2025-2026 event evidence	Highest level
Cloud seeding	Operational precipitation/fog/hail modification in suitable clouds	Local/regional; requires susceptible clouds; cannot create large weather systems from clear skies	No verified chain linking selected global disasters to hostile deployment	A-B (historical Popeye reaches F)
Solar geoengineering / SRM	Models, research, limited experiments and proposed methods	Potential climate-scale effects if deployed at scale, but major deployment not established	No verified covert global deployment identified	A; proposed B under model assumptions
Induced seismicity	Injection, extraction, reservoirs, mining and geothermal activity can trigger earthquakes	Local/regional coupling to stressed faults	No verified remote mechanism for major 2025 tectonic events	A-B generally; higher in documented industrial cases
Directed energy	High-energy lasers and high-power microwaves are operational military technologies	Tactical line-of-sight/electromagnetic applications; event-scale wildfire attribution requires deployment/signature	No verified deployment/signature for selected fires; official ignition findings identify other causes	A only for wildfire allegation
HAARP / ionospheric heating	High-frequency ionospheric research	Documented frequencies interact primarily with ionosphere, not tropospheric weather	No event-specific weather/fire deployment evidence; alleged mechanism fails current scalability test	A as research facility; below B for alleged large weather/fire mechanism

The table exposes why phrases such as "weather warfare is real" can be simultaneously true and misleading. Hostile weather modification is historically documented, but that proposition does not identify the mechanism or actor behind a contemporary hurricane. Conversely, stating that a particular alleged mechanism lacks evidence does not imply that all forms of environmental modification are fictitious.

6.2 Reporting deficits justify transparency, not causal presumption

GAO's 2026 audit is particularly important because it identifies a real oversight weakness. NOAA is legally responsible for receiving U.S. weather-modification reports, yet GAO found the reporting database incomplete and inconsistent, estimating that more than half of sampled reports likely contained errors or missing information and noting that some operators may fail to report (GAO, 2026a). State and local entities across nine U.S. states spent or planned at least US$20 million on cloud-seeding activities in 2024.

This evidence supports stronger registries, standardized geospatial reporting, public access to operational dates and materials, and independent auditing. It does not show that missing records conceal a global hostile program. The appropriate inference from an unreliable registry is epistemic uncertainty plus a governance obligation to improve transparency.

7. Forensic Case Studies

7.1 January 2025 Los Angeles fires

The Los Angeles fires are a useful test because directed-energy allegations circulated widely while conventional evidence subsequently became unusually specific. NOAA's event assessment identified a compound sequence of abundant antecedent vegetation growth, exceptional autumn dryness, and extreme Santa Ana winds that created severe fire-spread conditions. Those conditions explain propagation, not necessarily ignition.

By 2026, the California Department of Forestry and Fire Protection (2026a, 2026b) listed the Palisades Fire cause as arson and the Eaton Fire cause as electrical. The Palisades Fire burned approximately 23,448 acres, destroyed thousands of structures, and caused fatalities; the Eaton Fire burned approximately 14,021 acres. These official ignition classifications are directly relevant to the causal question and are stronger evidence than visual pattern interpretation from photographs.

Under the CAAG ladder, directed-energy technology reaches Level A in the abstract. For these fires, however, the allegation does not reach Level C: no verified deployment platform, operational record, or geolocated emission evidence was identified. It does not reach Level D: no validated physical signature diagnostic of a directed-energy strike was identified in the reviewed record. Conventional evidence provides direct ignition mechanisms and well-documented spread conditions. The DEW-attribution claim is therefore contradicted by the best currently available event-specific evidence, although ordinary questions about emergency response, utilities, land management, and climate-conditioned fire weather remain legitimate.

7.2 The 2025 storm anomaly

Storms provide the strongest positive disaster-count anomaly in the completed 2025 EM-DAT record. The anomaly is real at the level measured: 156 storm disasters versus a historical annual mean of 108. Its interpretation is nevertheless constrained by two findings. First, 2024 was already elevated at 147, reducing support for a unique mid-2025 break. Second, disaster occurrence is not identical to storm formation. Changes in landfall location, rainfall, exposure, vulnerability, and EM-DAT threshold crossing can raise the number of recorded disasters without requiring more tropical cyclones globally.

Climate science supplies plausible mechanisms for increased storm severity and rainfall in a warmer atmosphere, while allowing uncertainty over global frequency (Knutson et al., 2020). WMO further states that demonstrated weather-modification technologies do not provide accepted control over tropical cyclones or large-scale wind systems (WMO, 2025). The storm anomaly therefore reaches CAAG's Anomaly layer but does not, on the present evidence, pass from Level A capability for local weather modification to Level B scalability for global storm generation. The appropriate conclusion is a priority for event-level meteorological decomposition, not weather-war attribution.

7.3 Floods as a falsification-relevant case

Floods are important precisely because they do not behave as the strong hypothesis predicts. If intensified cloud seeding or atmospheric manipulation beginning in 2025 caused a generalized worldwide flood surge, a corresponding increase in EM-DAT flood disasters would be expected unless the theory specifies offsetting mechanisms. Instead, 119 flood disasters were recorded in 2025 against a historical mean of 169, a statistically significant negative deviation.

This result does not prove that cloud seeding never contributed to a local rainfall event, nor does it imply that flood intensity or local flash-flood risk declined everywhere. It does show that global disaster-count evidence cannot be cited as support for a generalized engineered-flood escalation in 2025. A future local attribution study would require flight or generator logs, seed-material records, radar and satellite microphysics, precipitation modelling, and a counterfactual estimate of rainfall without intervention.

7.4 Earthquakes and volcanism

The geophysical evidence produces a similar boundary. Human-induced earthquakes are established under local subsurface mechanisms, but the major 2025 tectonic earthquake record does not reveal a demonstrated remote triggering pathway. Volcanic eruption starts remained within recent variability. Neither category therefore supports a unified post-2025 engineered-disaster thesis. Their value in the analysis is not merely negative; they help calibrate how a defensible theory should behave when predicted evidence is absent.

Table 7. Forensic case-study attribution matrix. Judgments are calibrated to the evidence available at the 12 September 2026 data freeze.

Case	Observed anomaly / event	Strongest conventional evidence	Intervention evidence	Attribution judgment
Los Angeles fires, Jan 2025	Catastrophic wildfire losses under extreme fire weather	Fuel build-up, record dryness, Santa Ana winds; Palisades cause listed as arson and Eaton as electrical	DEW capability exists generally, but no verified deployment or diagnostic signature	DEW causation contradicted by best event-specific evidence
2025 storms	156 EM-DAT storm disasters vs 108 historical mean; RR 1.444, q<.001	Warming-related rainfall/intensity changes, landfall/exposure and vulnerability; 2024 already elevated at 147	Local weather modification exists, but accepted methods do not control tropical cyclones or global wind fields	Real anomaly; hostile intervention unresolved but unsupported
2025 floods	119 disasters vs 169 historical mean; RR 0.704, q<.001	Normal variability plus regional precipitation, exposure, land use and infrastructure	Cloud seeding can alter suitable local precipitation	Global engineered-flood-surge claim contradicted by annual count
2025 earthquakes	29 EM-DAT earthquake disasters; 16 M7+ USGS events	Tectonic mechanisms; local industrial induced seismicity established separately	No verified remote trigger/deployment for major tectonic events	No generalized engineered-seismic attribution
2025 volcanism	29 new eruption starts; 4 EM-DAT volcanic disasters	Volcanic processes and monitoring variability	No verified technological trigger	Negative control; no post-2025 increase

8. Global Governance and Crisis Instrumentalization

8.1 Interdependence is an explicit governance premise

The policy side of the broader argument requires different evidence from physical attribution. The UN Pact for the Future explicitly treats contemporary risks as interconnected and transboundary, argues that many exceed the capacities of individual states, and calls for stronger international cooperation and more effective multilateral governance (United Nations, 2024). Such language is not hidden. It reflects a longstanding global-governance literature in which authority, rule-making, and coordination increasingly operate through overlapping intergovernmental, transnational, and public-private arrangements rather than only national hierarchy (Abbott & Snidal, 2000; Rhodes, 1996; Scholte, 2023; Zürn, 2018).

This evidence supports the proposition that crises can reinforce governance centralization or coordination. It does not establish a single global government, still less a secret command structure that manufactures the triggering crises. Analytically, policy convergence, coordination, authority transfer, and causal command must remain distinct.

8.2 The Great Reset as documented crisis-reform framing

World Economic Forum Great Reset material explicitly presented the COVID-19 disruption as an opportunity to rethink economic and social systems and accelerate digital transformation (World Economic Forum, 2020). That framing is relevant to the concept of crisis instrumentalization because it links emergency conditions to broader institutional reform goals. Boin et al. (2009) provide a non-conspiratorial theoretical vocabulary for the same phenomenon: political actors use crises as framing contests that can stabilize existing arrangements, accelerate reforms, or delegitimize incumbents.

The strongest evidence-based claim is therefore not that global institutions **create** disasters in order to govern them. It is that major institutions openly conceptualize transboundary crises as problems requiring coordinated governance and, in some cases, as opportunities for systemic transformation. Whether such reforms are desirable, democratic, technocratic, or coercive is a normative and institutional question. It is not a substitute for forensic evidence of physical crisis production.

8.3 Environmental-modification governance exposes a real accountability gap

The convergence of expanding technical capability and incomplete oversight creates a genuine hazards-policy problem even when covert-war claims are unproven. Weather modification can cross administrative boundaries; aerosol interventions could have transboundary effects; induced seismicity can distribute risks beyond an operator's site; and poorly reported experiments can degrade public trust. GAO's findings on weather-modification reporting demonstrate that transparency infrastructure has not fully kept pace with public concern or emerging technologies.

A precautionary governance response should therefore include public machine-readable registries of weather-modification operations, geospatial and temporal disclosure, standardized reporting of seeding agents and delivery platforms, independent post-operation evaluation, disclosure of geoengineering experiments, and explicit cross-border notification thresholds. Such measures protect both sides of the epistemic problem: they deter covert or irresponsible intervention and reduce the informational vacuum in which unsupported attribution narratives flourish.

Table 8. Governance evidence and inference boundaries.

Source	Documented proposition	What it supports	What it does not establish
UN Pact for the Future (2024)	Interconnected transboundary challenges require stronger cooperation and more effective multilateral institutions	Governance convergence and explicit interdependence framing	Physical manufacture of environmental crises
WEF Great Reset material (2020)	Major crisis framed as an opportunity for systemic and digital transformation	Crisis-linked reform / instrumentalization discourse	Command over or production of disasters
GAO weather-modification audit (2026)	NOAA reporting database incomplete and inconsistent; operator reporting gaps exist	Transparency and accountability deficit	That missing reports conceal hostile global operations
ENMOD (1976)	Hostile environmental modification is prohibited under international law	Environmental warfare as recognized legal/security category	That present disasters were produced by prohibited methods
Crisis-exploitation literature	Crises generate framing contests and policy opportunity structures	Mechanism for political use of independently occurring crises	That beneficiaries caused the initiating crisis

9. Discussion

9.1 Principal finding: the post-2018 regime is multidimensional and internally contradictory

The principal result is not a binary verdict that disasters either did or did not escalate after 2018. The evidence shows a dimension-specific transition. Reported disaster occurrence during 2019-2025 is modestly above a reconstructed pre-2019 benchmark and reported economic losses are higher, yet mortality and affected-population averages are lower. Global tropical-cyclone ACE is non-monotonic, M7+ earthquake frequency is not elevated above its long-run expectation, volcanism remains within observation-era variability, and global wildfire emissions can be low while individual regions experience record seasons. The late-2026 evidence adds a second dimension: record heat, major drought, severe regional fires, a catastrophic cascading Himalayan flood, high-impact earthquakes, and active eruptions occurred within a relatively short interval. This constitutes meaningful convergence of upper-tail crises, but convergence is not the same statistical claim as uniform acceleration in every global series.

9.2 What taking 2019-2026 as a whole changes

Treating 2019 through 12 September 2026 as the primary analytic period removes an avoidable source of confirmation bias. The earlier architecture labeled 2019-2024 a transition period and 2025-2026 an escalation period. The completed evidence does not warrant that phase distinction as a primary design. A broader post-2018 window is more defensible because it allows 2019 and 2025 to emerge, or fail to emerge, as internal discontinuities. On the present summary evidence, 2019-2024 contains somewhat elevated reported occurrence, but 2025 does not generate a further aggregate increase. The resulting interpretation is therefore a post-2018 change in selected dimensions rather than a demonstrated two-stage transition-implementation sequence.

9.3 Why magnitude changes the inference

Occurrence counts are an administrative and epidemiological measure, not a sufficient physical description. Several relevant metrics are intrinsically nonlinear. ACE weights cyclone winds quadratically; seismic energy grows approximately as 10^(1.5M), so each additional magnitude unit multiplies energy by about 31.6; atmospheric moisture capacity increases approximately 7% per degree Celsius over the relevant range, while the frequency of rare heavy-precipitation events increases nonlinearly with warming (Seneviratne et al., 2021). Flood losses can then be compounded by exposure, infrastructure interdependence, sediment and debris, and cascading failures. Wildfire emissions can jump from near-average to record regional totals over weeks. These mechanisms explain why modest changes in background conditions can generate disproportionately large tail consequences without an equivalent increase in event counts.

The magnitude extension therefore narrows rather than expands the causal claim. It increases confidence that some post-2018 hazard experiences are genuinely extreme, particularly at regional and upper-tail scales, but decreases the plausibility of a uniform global forcing explanation. A mechanism proposed to explain the full record must account not only for positive anomalies but also for ordinary ACE years, declining global fire emissions in some years, non-elevated large-earthquake frequency, negative flood-count results, and stable volcanism.

9.4 Environmental capability remains real, but capability is not event causation

The expanded severity analysis does not erase the governance significance of environmental modification. Cloud seeding is operational in many jurisdictions; Operation Popeye establishes historical hostile-use precedent; fluid injection and related subsurface activities can induce local seismicity; solar geoengineering is an active research field; and directed-energy technologies exist at demonstrated military and industrial scales. Those facts establish Level A capability and, for some applications, bounded Level B scalability. They do not identify the cause of a hurricane, major tectonic earthquake, regional wildfire complex, or flood without deployment evidence, predicted physical signatures, counterfactual inadequacy, and actor linkage.

9.5 What the evidence establishes and what it contradicts

Five findings are strongly supported. First, the post-2018 period shows a modest increase in reported disaster occurrence relative to contextual pre-2019 benchmarks. Second, severity is not unidirectional: deaths and affected population are lower on average while reported economic losses are higher. Third, important upper-tail physical events occur within otherwise non-monotonic global series, including record regional wildfire emissions and the 2025 M8.8 Kamchatka earthquake. Fourth, documented environmental-modification capabilities justify serious transparency and dual-use governance. Fifth, international institutions openly frame transboundary crises through interdependence, coordination, resilience, and institutional reform.

The evidence contradicts or fails to establish several stronger propositions. It does not show a uniform global post-2018 increase in physical hazard magnitude. It does not show a further aggregate disaster-count escalation in 2025. It does not show elevated global M7+ earthquake frequency, increased volcanism, or monotonic global wildfire emissions. It does not establish that HAARP generated storms or earthquakes, that directed-energy weapons caused the examined wildfires, that cloud seeding explains global flood behavior, or that an international governance body physically produced the disasters it subsequently discussed. The distinction between crisis instrumentalization and crisis manufacture remains essential.

9.6 End-time prophecy and nonlinear hazard magnitude: a bounded Christian interpretation

The empirical findings provide a more disciplined basis for Christian eschatological interpretation than a simple disaster-count chart. In the Olivet discourse, Jesus places famines and earthquakes among phenomena associated with the beginning of labor pains (Matthew 24:7-8) and speaks of great earthquakes, famines, pestilences, and terrifying signs (Luke 21:11). The labor-pains image naturally directs attention toward progression, convergence, and increasing consequence as the sequence approaches its climax. It does not, however, require a monotonic annual rise in every hazard category or authorize an “exponential” curve to be imposed where the data do not contain one.

The magnitude results are nevertheless significant for that theological reading. Modern risk can intensify nonlinearly in at least four distinct ways. First, rare heavy precipitation becomes disproportionately more frequent as warming increases, while moisture-holding capacity rises with temperature. Second, cyclone energy proxies rise with the square of wind speed, so high-end wind changes matter more than counts. Third, earthquake energy is exponential in magnitude, meaning a rare M8.8 event can dominate years of smaller M7-class activity without any increase in earthquake frequency. Fourth, compound crises combine hazards, exposure, infrastructure dependencies, and cascading failures, as the 2026 Nepal flood illustrates. The scientifically defensible conclusion is therefore not that every modern disaster is exponentially increasing, but that the destructive potential and upper-tail magnitude of several crisis types can grow nonlinearly and can converge within the same historical period.

This convergence is compatible with, but does not empirically prove, a biblical birth-pains interpretation. Scripture also describes later judgments of a qualitatively different order, including a great earthquake in Revelation 6:12, severe ecological judgments in Revelation 8:7-12, and an earthquake described as unparalleled in Revelation 16:18-21. Those texts counsel against prematurely labelling present-day floods, fires, earthquakes, or eruptions as the specific trumpet or bowl judgments themselves. A more careful conclusion is that the present pattern may function as a precursory analogue: creation exhibits increasingly consequential extremes, societies are more tightly interconnected and vulnerable to cascading disruption, and multiple hazard classes can become simultaneously salient.

The distinction also prevents a theological inference from becoming a technological accusation. Whether an event is consistent with Matthew 24:7-8 says nothing by itself about whether it was naturally generated, anthropogenically amplified through climate forcing, locally modified by human activity, or deliberately engineered. Prophetic correspondence, environmental attribution, and governance instrumentalization are separate propositions requiring separate evidence. This separation is not a weakening of the eschatological argument; it makes the argument harder to dismiss because it refuses to claim more than either Scripture or the empirical record warrants.

9.7 Crisis governance and the benefit-causation fallacy

The governance evidence is strongest when interpreted at the level it can actually support. UN and other institutional documents explicitly describe contemporary risks as interconnected and transboundary and advocate stronger coordination or institutional reform. World Economic Forum Great Reset materials explicitly framed the COVID-19 crisis as an opportunity for systemic transformation. These are legitimate objects of critical governance analysis. Yet political benefit, policy acceleration, or rhetorical use of a crisis does not identify the physical cause of the initiating hazard. The CAAG framework therefore treats governance as a downstream analytical layer requiring its own evidence rather than as retrospective proof of upstream manufacture.

9.8 Policy implications

The combined findings support more, not less, environmental-modification transparency. A public registry should disclose operator identity, purpose, coordinates, dates, seeding agents or released materials, platform type, permits, expected physical effects, and post-operation evaluation. Cross-border operations should trigger notification and review. Solar-geoengineering experiments should publish protocols, dispersion expectations, monitoring plans, and termination criteria. Independent archives should preserve radar, satellite, meteorological, hydrological, seismic, and operational records in forms usable for later forensic attribution.

Disaster statistics also require multidimensional reporting. Annual disaster counts should be paired with hazard-specific physical intensity, exposure-normalized loss, mortality, displacement, affected population, and upper-tail indicators. Public communication that labels a year "record" on one dimension should identify the denominator and the metric. This would reduce both institutional overstatement and alternative narratives that treat every dramatic event as proof of hidden intervention.

9.9 Limitations and next replication

The principal limitation is that the expanded analysis remains a rigorously audited summary-data study rather than a harmonized event-level global panel. Historical CRED totals used to reconstruct the 2000-2018 contextual baseline are rounded, annual database vintages can change, and monetary-loss conventions are not perfectly constant. The analysis therefore does not estimate a formal causal post-2018 coefficient from raw EM-DAT records. The cyclone series uses authoritative annual summaries, but seven complete post-2018 years are too short for a standalone trend inference. Wildfire carbon emissions measure combustion intensity and emissions, not burned area or structural loss. Earthquake energy is dominated by the largest magnitude and should not be treated as a stable annual mean process. The eschatological component is an explicitly confessional interpretive layer rather than a test of divine causation; it is designed to assess textual-empirical correspondence while preventing theology from substituting for physical attribution.

The next replication should freeze a single event-level database vintage and pre-register a multidimensional analysis: negative-binomial models for occurrence, quantile and extreme-value models for physical severity, exposure-normalized loss models, spatial scan statistics, and breakpoint-agnostic change-point procedures. Tropical-cyclone work should derive storm-level ACE, maximum wind, pressure, rapid intensification, landfall, and rainfall directly from IBTrACS and reanalysis. Wildfire work should integrate burned area, FRP, fire radiative energy, drought, wind, humidity, ignition, and exposure. Flood work requires precipitation intensity, discharge, antecedent soil moisture, land use, and water-management variables. Such extensions would test whether the upper-tail signals identified here represent persistent regime change or short-window clustering.

Finally, absence of public evidence is not proof that covert activity never occurs. Secrecy can create genuine epistemic constraints. That fact increases the value of observable traces, independent monitoring, and transparent registries; it does not lower the evidentiary

threshold for assigning causal responsibility to a named actor.

10. Conclusion

This multidimensional evidence audit reaches a more precise conclusion than either a generalized disaster-escalation thesis or a count-based dismissal of post-2018 change. The integrated 2019-12 September 2026 period contains a modest increase in reported disaster occurrence and higher reported economic losses, but those dimensions do not move uniformly with mortality, affected population, global tropical-cyclone energy, large-earthquake frequency, global wildfire emissions, or volcanism. What does emerge more clearly is an upper-tail and convergence problem: selected hazards and regions exhibit exceptional physical magnitude, compound cascades, record heat or drought indicators, rapid shifts to extreme fire activity, and severe societal consequences even while some global aggregates remain ordinary, declining, or non-monotonic.

This matters for environmental-modification attribution and for claims about accelerating crisis. Human capability to modify limited atmospheric and subsurface processes is documented, and historical hostile use is real. Yet an extreme event must still pass tests of physical scalability, deployment, predicted signature, counterfactual exclusion, and actor linkage. The examined evidence does not presently establish covert engineering of the major 2019-2026 hazards considered here. Likewise, the word exponential should be reserved for relationships that are actually exponential, such as earthquake energy scaling with magnitude, or replaced by nonlinear, upper-tail, compound, or superlinear language when those terms better match the evidence.

The strongest actionable conclusion concerns evidence infrastructure. Weather-modification and climate-intervention governance should be designed so that legitimate scientific operations, accidental effects, hostile misuse, and unsupported allegations can be distinguished empirically. Transparent registries, independent monitoring, preserved raw observations, cross-border notification, and reproducible disaster-severity metrics would improve both accountability and public trust. The CAAG framework contributes a disciplined inference architecture for that task: capability is not deployment, anomaly is not attribution, extreme magnitude is not hostile intent, and crisis instrumentalization is not crisis manufacture.

From a Christian eschatological perspective, the resulting picture is more consequential than a raw event-count comparison. The convergence of severe hazards, cascading impacts, environmental stress, and increasingly consequential upper tails is consistent with the "beginning of labor pains" described in Matthew 24:7-8 and with the expectation of great earthquakes and other fearful disturbances in Luke 21:11. It is not, by empirical analysis alone, proof that a particular prophetic seal, trumpet, or bowl judgment has begun. The most defensible formulation is therefore one of convergence with epistemic restraint: contemporary crises can reasonably be read as precursory signs within a biblical worldview, while the scientific record continues to require hazard-specific measurement, and Scripture itself supplies the boundary against premature identification of present events with later, textually specified judgments.

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INFORMED CONSENT	Not applicable.
DATA AVAILABILITY	All numerical inputs used in the multidimensional analysis are reproduced in the accompanying replication package, with source URLs and coverage notes. Underlying access-controlled databases remain subject to their source terms and revision policies.
MATERIALS AND CODE AVAILABILITY	The accompanying replication package contains the hazard-screening and multidimensional magnitude-extension scripts, together with the CSV and JSON inputs needed to regenerate derived values and publication figures.
USE OF GENERATIVE AI	OpenAI ChatGPT (GPT-5.6 Sol) was used for editorial and typesetting assistance in preparing the galley proof. The author reviewed and verified the final content, sources, analyses, citations, and interpretations and assumes full responsibility for the published work.
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References

Centre for Research on the Epidemiology of Disasters, & United Nations Office for Disaster Risk Reduction. (2021). 2020: The non-COVID year in disasters. https://www.undrr.org/publication/2020-non-covid-year-disasters

Centre for Research on the Epidemiology of Disasters. (2020). Natural disasters 2019: Now is the time to not give up. UCLouvain. https://www.cred.be/sites/default/files/adsr_2019.pdf

Centre for Research on the Epidemiology of Disasters. (2022). 2021 disasters in numbers: Extreme events defining our lives. UCLouvain. https://cred.be/sites/default/files/2021_EMDAT_report.pdf

Centre for Research on the Epidemiology of Disasters. (2023). 2022 disasters in numbers: Climate in action. UCLouvain. https://cred.be/sites/default/files/2022_EMDAT_report.pdf

Centre for Research on the Epidemiology of Disasters. (2024). 2023 disasters in numbers: A significant year of disaster impact. UCLouvain. https://files.emdat.be/reports/2023_EMDAT_report.pdf

Centre for Research on the Epidemiology of Disasters. (2025). 2024 disasters in numbers: A hot and stormy year. EM-DAT. https://files.emdat.be/reports/2024_EMDAT_report.pdf

Centre for Research on the Epidemiology of Disasters. (2026). 2025 disasters in numbers: Earth, wind & fire. EM-DAT. https://files.emdat.be/reports/2025_EMDAT_report.pdf

Copernicus Atmosphere Monitoring Service. (2020, December 14). Fire activity hot spots reached new extremes in 2020 but global fire emissions are decreasing. https://atmosphere.copernicus.eu/copernicus-fire-activity-hot-spots-reached-new-extremes-2020-global-fire-emissions-are-decreasing

Copernicus Atmosphere Monitoring Service. (2021, December 6). Wildfires wreaked havoc in 2021, CAMS tracked their impact. https://atmosphere.copernicus.eu/wildfires-wreaked-havoc-2021-cams-tracked-their-impact

Copernicus Atmosphere Monitoring Service. (2023, December 12). 2023: A year of intense global wildfire activity. https://atmosphere.copernicus.eu/2023-year-intense-global-wildfire-activity

Copernicus Atmosphere Monitoring Service. (2024). CAMS global wildfires review 2024: A harsh year for the Americas. https://atmosphere.copernicus.eu/cams-global-wildfires-review-2024-harsh-year-americas

Copernicus Atmosphere Monitoring Service. (2025, December 3). 2025 sees intense wildfire year in the Northern Hemisphere. https://atmosphere.copernicus.eu/2025-sees-intense-wildfire-year-northern-hemisphere

Copernicus Atmosphere Monitoring Service. (2026b, July 29). Fire Emissions Watch: Global wildfire emission data at your fingertips. https://atmosphere.copernicus.eu/fire-emissions-watch-global-wildfire-emission-data-your-fingertips

Delforge, D., Wathelet, V., Below, R., Lanfredi Sofia, C., Tonnelier, M., van Loenhout, J. A. F., & Speybroeck, N. (2025). EM-DAT: The Emergency Events Database. International Journal of Disaster Risk Reduction, 124, 105509. https://doi.org/10.1016/j.ijdrr.2025.105509

Copernicus Atmosphere Monitoring Service. (2026a, July 6). Copernicus: Global biomass burning emissions in 2026 at their lowest level since 2003. https://atmosphere.copernicus.eu/copernicus-global-biomass-burning-emissions-2026-their-lowest-level-2003

Copernicus Atmosphere Monitoring Service. (2026c, August 21). Copernicus: Indonesia's seasonal fires intensify as boreal wildfire smoke impacts the Northern Hemisphere and Arctic. https://atmosphere.copernicus.eu/copernicus-indonesias-seasonal-fires-intensify-boreal-wildfire-smoke-impacts-northern-hemisphere

Copernicus Climate Change Service. (2026, September 10). Copernicus: August was the world's joint hottest month on record, pushing global temperatures back above 1.5°C above pre-industrial levels. https://climate.copernicus.eu/copernicus-august-was-worlds-joint-hottest-month-record-pushing-global-temperatures-back-above

Diamond, H. J., & Schreck, C. J. (Eds.). (2022). The tropics [State of the Climate in 2021]. Bulletin of the American Meteorological Society, 103(8), S193-S256. https://doi.org/10.1175/BAMS-D-22-0069.1

Diamond, H. J., & Schreck, C. J. (Eds.). (2023). The tropics [State of the Climate in 2022]. Bulletin of the American Meteorological Society, 104(9). https://doi.org/10.1175/BAMS-D-23-0078.1

Diamond, H. J., & Schreck, C. J. (Eds.). (2024). The tropics [State of the Climate in 2023]. Bulletin of the American Meteorological Society, 105(8), S214-S276. https://doi.org/10.1175/BAMS-D-24-0098.1

Diamond, H. J., & Schreck, C. J. (Eds.). (2025). The tropics [State of the Climate in 2024]. Bulletin of the American Meteorological Society, 106(8). https://doi.org/10.1175/BAMS-D-25-0086.1

Diamond, H. J., & Schreck, C. J. (Eds.). (2026). The tropics [State of the Climate in 2025]. Bulletin of the American Meteorological Society, 107(8), S235-S295. https://doi.org/10.1175/BAMS-D-26-0101.1

DiMascio, J., Feickert, A., O'Rourke, R., & Sayler, K. M. (2024). Department of Defense directed energy weapons: Background and issues for Congress (CRS Report R46925). Congressional Research Service. https://www.congress.gov/crs-product/R46925

Douglas, K. M., Sutton, R. M., & Cichocka, A. (2017). The psychology of conspiracy theories. Current Directions in Psychological Science, 26(6), 538-542. https://doi.org/10.1177/0963721417718261

Douglas, K. M., Uscinski, J. E., Sutton, R. M., Cichocka, A., Nefes, T., Ang, C. S., & Deravi, F. (2019). Understanding conspiracy theories. Political Psychology, 40(S1), 3-35. https://doi.org/10.1111/pops.12568

Ellsworth, W. L. (2013). Injection-induced earthquakes. Science, 341(6142), 1225942. https://doi.org/10.1126/science.1225942

Foulger, G. R., Wilson, M. P., Gluyas, J. G., Julian, B. R., & Davies, R. J. (2018). Global review of human-induced earthquakes. Earth-Science Reviews, 178, 438-514. https://doi.org/10.1016/j.earscirev.2017.07.008

Government of Nepal, Ministry of Foreign Affairs. (2026, September 11). The Ministry's regular press briefing: Situation update on the Bhote Koshi River floods. https://www.mofa.gov.np/content/1884/the-ministry-s-regular-press-briefing--11-september/

Jinnah, S., & Dove, Z. (2025). Solar radiation management: A history of the governance and political milestones. Environmental Science: Atmospheres, 5, 656-673. https://doi.org/10.1039/D5EA00008D

Jones, M. W., Abatzoglou, J. T., Veraverbeke, S., Andela, N., Lasslop, G., Forkel, M., Smith, A. J. P., Burton, C., Betts, R. A., van der Werf, G. R., Sitch, S., Canadell, J. G., Santin, C., Kolden, C., Doerr, S. H., & Le Quere, C. (2022). Global and regional trends and drivers of fire under climate change. Reviews of Geophysics, 60(3), e2020RG000726. https://doi.org/10.1029/2020RG000726

Keranen, K. M., & Weingarten, M. (2018). Induced seismicity. Annual Review of Earth and Planetary Sciences, 46, 149-174. https://doi.org/10.1146/annurev-earth-082517-010054

Klotzbach, P. J., Wood, K. M., Schreck, C. J., Bowen, S. G., Patricola, C. M., & Bell, M. M. (2022). Trends in global tropical cyclone activity: 1990-2021. Geophysical Research Letters, 49(6), e2021GL095774. https://doi.org/10.1029/2021GL095774

Knutson, T. R., Camargo, S. J., Chan, J. C. L., Emanuel, K., Ho, C.-H., Kossin, J., Mohapatra, M., Satoh, M., Sugi, M., Walsh, K., & Wu, L. (2020). Tropical cyclones and climate change assessment: Part II. Projected response to anthropogenic warming. Bulletin of the American Meteorological Society, 101(3), E303-E322. https://doi.org/10.1175/BAMS-D-18-0194.1

McAdoo, B. G., Aaliya, Jennings, L., Joiner, A., Staton, C., & Vissoci, J. R. N. (2026). From understanding disaster risk to risk reduction solutions. International Journal of Disaster Risk Reduction, 140, 106135. https://doi.org/10.1016/j.ijdrr.2026.106135

Muir, G., & Opdyke, A. (2024). Deconstructing disaster risk creation discourses. International Journal of Disaster Risk Reduction, 111, 104682. https://doi.org/10.1016/j.ijdrr.2024.104682

Munich Re. (2026a, January 13). Climate change presses on: Devastating wildfires and intense thunderstorms exacerbate losses for insurers. https://www.munichre.com/en/company/media-relations/media-information-and-corporate-news/media-information/2026/natural-disaster-figures-2025.html

Munich Re. (2026b, July 30). Lower losses, growing risks: The natural disaster review for the first half of 2026. https://www.munichre.com/en/company/media-relations/media-information-and-corporate-news/media-information/2026/natural-disaster-figures-first-half-2026.html

National Academies of Sciences, Engineering, and Medicine. (2021). Reflecting sunlight: Recommendations for solar geoengineering research and research governance. National Academies Press. https://doi.org/10.17226/25762

NOAA Climate.gov. (2025, February 19). The weather and climate influences on the January 2025 fires around Los Angeles. https://www.climate.gov/news-features/event-tracker/weather-and-climate-influences-january-2025-fires-around-los-angeles

Otto, F. E. L. (2023). Attribution of weather and climate events. Annual Review of Environment and Resources, 48, 813-828. https://doi.org/10.1146/annurev-environ-112621-083538

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hrobjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71

Rethlefsen, M. L., Kirtley, S., Waffenschmidt, S., Ayala, A. P., Moher, D., Page, M. J., & Koffel, J. B. (2021). PRISMA-S: An extension to the PRISMA statement for reporting literature searches in systematic reviews. Systematic Reviews, 10, 39. https://doi.org/10.1186/s13643-020-01542-z

Reynolds, J. L. (2019). Solar geoengineering to reduce climate change: A review of governance proposals. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 475, 20190255. https://doi.org/10.1098/rspa.2019.0255

Rhodes, R. A. W. (1996). The new governance: Governing without government. Political Studies, 44(4), 652-667. https://doi.org/10.1111/j.1467-9248.1996.tb01747.x

Robock, A., Oman, L., & Stenchikov, G. L. (2008). Regional climate responses to geoengineering with tropical and Arctic SO2 injections. Journal of Geophysical Research: Atmospheres, 113(D16), D16101. https://doi.org/10.1029/2008JD010050

Royal Society. (2009). Geoengineering the climate: Science, governance and uncertainty. The Royal Society.

Sangwa, S. (2025). Statistical evidence of covert weather warfare in the 2025 global disaster surge: Assessing climate geoengineering impacts. Open Journal of Stigmatized Knowledge & Suppressed Discourses, 1(2). https://doi.org/10.65655/fk8mjc27

Sayler, K. M. (2026, January 7). Defense primer: Directed-energy weapons (CRS Report IF11882). Congressional Research Service. https://www.congress.gov/crs-product/IF11882

Scholte, J. A. (2023). Norm dynamics in a post-hegemonic world: Multistakeholder global governance after liberal order. Review of International Political Economy, 30(4), 987-1013. https://doi.org/10.1080/09692290.2023.2213441

Seneviratne, S. I., Zhang, X., Adnan, M., Badi, W., Dereczynski, C., Di Luca, A., Ghosh, S., Iskandar, I., Kossin, J., Lewis, S., Otto, F., Pinto, I., Satoh, M., Vicente-Serrano, S. M., Wehner, M., & Zhou, B. (2021). Weather and climate extreme events in a changing climate. In V. Masson-Delmotte et al. (Eds.), Climate Change 2021: The Physical Science Basis (pp. 1513-1766). Cambridge University Press. https://doi.org/10.1017/9781009157896.013

Smithsonian Institution Global Volcanism Program. (2026a). Volcanoes of the World (Version 5.4.0). Smithsonian Institution. https://doi.org/10.5479/si.GVP.VOTW5-2026.5.4

Smithsonian Institution Global Volcanism Program. (2026b). Smithsonian/USGS Weekly Volcanic Activity Report, 27 August-2 September 2026. Smithsonian Institution and U.S. Geological Survey. https://volcano.si.edu/reports_weekly.cfm

Sun, L., Deng, Y., & Qi, W. (2018). Two impact pathways from religious belief to public disaster response: Findings from a literature review. International Journal of Disaster Risk Reduction, 27, 588-595. https://doi.org/10.1016/j.ijdrr.2017.10.004

Swiss Re Institute. (2026, August 11). First-half 2026 insured natural catastrophe losses: Below trend, rising risks. https://www.swissre.com/institute/

United Nations Office for Disarmament Affairs. (1976). Convention on the prohibition of military or any other hostile use of environmental modification techniques. https://disarmament.unoda.org/en/our-work/weapons-mass-destruction/convention-prohibition-military-or-any-other-hostile-use-environmental-modification-techniques

United Nations. (2024). Pact for the Future, Global Digital Compact and Declaration on Future Generations (A/RES/79/1). https://www.un.org/en/summit-of-the-future/pact-for-the-future

U.S. Department of State. (1967, January 13). Weather modification in North Vietnam and Laos (Project Popeye): Memorandum from the Deputy Under Secretary of State for Political Affairs to Secretary of State Rusk. Office of the Historian, Foreign Relations of the United States, 1964-1968, Volume XXVIII, Laos. https://history.state.gov/historicaldocuments/frus1964-68v28/d274

U.S. Geological Survey. (2022). Induced earthquakes. https://www.usgs.gov/programs/earthquake-hazards/science/induced-earthquakes

U.S. Geological Survey. (2025). M 8.8 - 2025 Kamchatka Peninsula, Russia earthquake. https://earthquake.usgs.gov/earthquakes/eventpage/us6000qw60

U.S. Geological Survey. (2026b). World - M7+ in 2025. https://earthquake.usgs.gov/earthquakes/browse/m7-world.php?year=2025

U.S. Geological Survey. (2026a, February 5). Why are we having so many (or so few) earthquakes? Has naturally occurring earthquake activity been increasing? https://www.usgs.gov/faqs/why-are-we-having-so-many-or-so-few-earthquakes-has-naturally-occurring-earthquake-activity

U.S. Geological Survey. (2026c). World - M7+ in 2026. https://earthquake.usgs.gov/earthquakes/browse/m7-world.php

U.S. Government Accountability Office. (2026a). Weather modification: NOAA should strengthen oversight to ensure reliable information (GAO-26-108013). https://www.gao.gov/products/gao-26-108013

U.S. Government Accountability Office. (2026b). Science & Tech Spotlight: Solar geoengineering (GAO-26-108837). https://www.gao.gov/products/gao-26-108837

van Prooijen, J.-W., & Douglas, K. M. (2017). Conspiracy theories as part of history: The role of societal crisis situations. Memory Studies, 10(3), 323-333. https://doi.org/10.1177/1750698017701615

World Economic Forum. (2020). Digital transformation: Powering the Great Reset. https://www3.weforum.org/docs/WEF_Digital_Transformation_Powering_the_Great_Reset_2020.pdf

World Meteorological Organization. (2025). WMO statement on weather modification. https://wmo.int/content/wmo-statement-weather-modification

World Meteorological Organization. (2026c). State of the global climate 2025. https://wmo.int/publication-series/state-of-global-climate/state-of-global-climate-2025

World Meteorological Organization. (2026a, September 11). Earth has hottest August on record. https://public.wmo.int/media/news/earth-has-hottest-august-record

World Meteorological Organization. (2026b, September 3). El Niño set to become very strong, raising risks of extreme weather into 2027. https://public.wmo.int/news/media-centre/el-nino-set-become-very-strong-raising-risks-of-extreme-weather-2027

Zürn, M. (2018). A theory of global governance: Authority, legitimacy, and contestation. Oxford University Press. https://doi.org/10.1093/oso/9780198819974.001.0001