

Natural Disasters in the News, 2019-2026: Seasonality, Geography and Tone of Global Coverage of Natural Disasters and Disaster Management, and How It Compares with Research and Invention

Fliar BI · Prism Research Layer · Working paper, October 2026 · Dataset and code: github.com/fliarbi/prism-news-api · Licence CC BY-NC 4.0

Abstract

We measure how natural disasters and disaster management were covered in a global news index from January 2019 to July 2026, using 80,169 de-duplicated articles that use the general vocabulary of disasters. We set that coverage beside 20,032 research papers and 4,642 patent families on the same subject. Six results stand out:

1. **Seasonality.** On average 31.36% of each year's coverage appears in July, August and September. August is the busiest month (11.0%) and April the quietest (6.7%).
2. **Attention, not occurrence.** The topic took a 30.2% smaller share of news in 2020 than in 2019. Its share peaked in October 2024, the month Hurricane Milton struck Florida, at 9.42 articles per 10,000.
3. **Geography.** India's share of located coverage is 2.79 times its share of all news, and the United States' is 0.54 times. Afghanistan (9.94), Indonesia (8.62) and Nepal (6.75) are the most over-represented countries. Within India, the Himalayan states lead: Sikkim (8.49), Himachal Pradesh (7.2) and Uttarakhand (5.04). Within the United States, Hawaii (15.88) leads by far.
4. **Tone and urgency.** 53.6% of articles are negative in tone (all news: 33.6%), and 78.9% are rated critical priority (all news: 42.6%).
5. **Measurement.** Exclusion patterns removed 8.68% of raw matches, aimed at pandemic orders under disaster-management law, IT "disaster recovery" products and unrelated incidents. The pandemic exclusion also lowers the 2020 share, so the 2020 low is partly a product of the matching rule.
6. **Research and invention.** Papers on the topic grew from 2.43 to 3.64 per 10,000 papers from 2015 to 2025. Patent families grew 5.33-fold from 2015 to 2024, and China's office held 74.3% of office filings.

Findings stated for citation

- **F1.** Between 2019 and 2025, an average of 31.36% of each year's coverage appeared in July–September, against 25% for an even spread.
- **F2.** The topic took a 30.2% smaller share of news in 2020 than in 2019 (4.2 vs 6.02 per 10,000 articles).
- **F3.** October 2024 was the peak month, at 9.42 articles per 10,000.
- **F4.** Coverage reached 100.79 per 10,000 of Turkey's located news in 2023, against 6.05 in 2022 and 12.69 in 2024.
- **F5.** India's share of located coverage (36.78%) was 2.79 times its share of all news. The United States' (26.21%) was 0.54 times.

- **F6.** Afghanistan (9.94), Indonesia (8.62) and Nepal (6.75) were the most over-represented countries.
- **F7.** 53.6% of articles were negative in tone, 1.6 times the all-news share.
- **F8.** 78.9% of articles were rated critical priority, 1.85 times the all-news share.
- **F9.** Emergency preparedness and public education appeared 347.76 times more often than in all news.
- **F10.** India's National Disaster Response Force was the second most named organisation, after the US Federal Emergency Management Agency.
- **F11.** Exclusion patterns for other senses removed 8.68% of raw matches.
- **F12.** Papers on the topic rose 1.5-fold as a share of all papers between 2015 and 2025.
- **F13.** Patent families published per year grew 5.33-fold between 2015 and 2024; China's office held 74.3% of office filings.
- **F14.** Within India, Sikkim (8.49), Himachal Pradesh (7.2) and Uttarakhand (5.04) had the most over-represented coverage.
- **F15.** Within the United States, Hawaii (15.88), North Carolina (2.73) and Mississippi (2.45) had the most over-represented coverage.
- **F16.** In 2025, the year Cyclone Ditwah struck Sri Lanka, coverage reached 87.83 per 10,000 of its located news, 6.45 times the 2023 level.

1. Introduction

Natural disasters are recorded in many places. Event databases list hazards and losses. Agencies publish damage reports. News is often the first public record, and it shapes what the public and governments treat as urgent. Yet attention to disasters is rarely measured as data in its own right: how much of the news the subject takes, when, where and in what tone.

This paper measures that attention for the general subject of natural disasters and their management. It does not count each hazard separately. Floods, earthquakes, hurricanes, tornadoes, tsunamis and volcanoes have their own releases. Instead it counts news that frames an event or a policy as a natural disaster, or that concerns the institutions that prepare for and respond to disasters. The study combines three records: a global news index, research papers and patents. Each comparison uses a denominator, so that growth in the index or in publishing is not mistaken for growth in interest. The companion dataset publishes an article-level sample (19,869 rows) and full coverage tables, so every figure here can be re-derived. The [Prism News API](#) serves the full history.

2. Data and methods

News. The Prism news index holds articles from outlets worldwide; non-English articles are indexed in English translation. Each article carries its opening text (the first few sentences), a primary location, a graded tone label, an editorial priority rating (1–9), themes, keywords and named organisations. We count unique article identifiers; repeated rows for the same article are removed. When this release was built, 92.88% of the index was readable, so all counts are lower bounds.

Matching. An article is in scope when its opening text contains, as whole words, *natural disaster(s)*, *natural calamity* or *calamities*, *disaster management*, *disaster relief*, *disaster*

response, disaster risk reduction, disaster preparedness, disaster-hit or disaster-affected. Several families of matches are excluded:

- pandemic items, since India's disaster-management law was the legal basis for COVID-19 orders (openings that mention COVID-19, coronavirus, lockdowns or the Disaster Management Act);
- IT "disaster recovery" and data-backup products;
- routine police reports that name a disaster-management cell, such as bodies found in lakes, children in borewells and mine accidents;
- quiz pages and auto-generated summaries.

Together these removed 7,624 of 87,793 raw matches (8.68%). One reviewer read 40 randomly drawn matched openings. 35 used the vocabulary in the sense of natural hazards, natural disasters or disaster management (precision 87.5%), and in 26 (65%) a natural disaster or disaster management was the main subject. A second reviewer re-judged 15 of the 40 and agreed with every relevance call; 5 of those 15 were passing mentions (an insurance list or an opinion piece that names natural disasters in one clause), which count as relevant but not as primary. The false positives were disaster-response forces at man-made accidents, pandemic-era relief funds and officials named in unrelated incidents.

Measures. Coverage over time is expressed per 10,000 articles in the index that month or year, because the index grew from 11,807,177 articles in 2019 to 26,990,006 in 2025. Seasonality uses each year's within-year month shares, averaged over the complete years 2019–2025. Geography, tone, priority and themes use January 2023 – July 2026. Geography is expressed as lift: a country's share of matched articles divided by its share of all located articles. The same rule gives state lift within India and the United States. Place tags derived from ordinary words (714 words such as "Congress", "Earth", "Winter" and "Hurricane") are treated as unlocated in every location field, which removes 15.3% of city-tagged articles.

Research and patents. Research papers are de-duplicated articles and reviews (2000–2025) with *natural disaster, natural hazard or disaster management, response, relief, preparedness or risk reduction* in the title. Repository deposits and IT disaster-recovery papers are excluded. Patent families (2005–2024) match *natural disaster, disaster management, disaster prevention, disaster relief, disaster rescue, disaster early warning or disaster monitoring* in the title, are counted once per filing office, and exclude data backup and mining safety.

3. Results

3.1 How much and when

The index holds 80,169 matched articles from January 2019 to July 2026. Raw counts rose from 7,109 in 2019 to 15,857 in 2025, but the share of all news did not: 6.02 per 10,000 in 2019 and 5.88 in 2025 (Table 1). The low point was 2020, at 4.2 per 10,000, 30.2% below 2019. The share rose 26.4% from 2022 to 2023, the year of the Turkey-Syria earthquakes, and 2023 had the highest annual share (6.22). The highest monthly share was October 2024, at 9.42 per 10,000 (Figure 1). February 2023 (8.23) and August 2023 (8.61) were also among the highest months.

Year	Matched articles	All articles in index	Per 10,000
2019	7,109	11,807,177	6.02
2020	6,813	16,230,014	4.2
2021	8,106	17,281,220	4.69
2022	9,412	19,115,515	4.92
2023	12,741	20,484,506	6.22
2024	14,398	23,311,896	6.18
2025	15,857	26,990,006	5.88

Table 1. Articles on natural disasters and disaster management per year, and as a share of the index. 2026 (January-July) is partial and omitted.

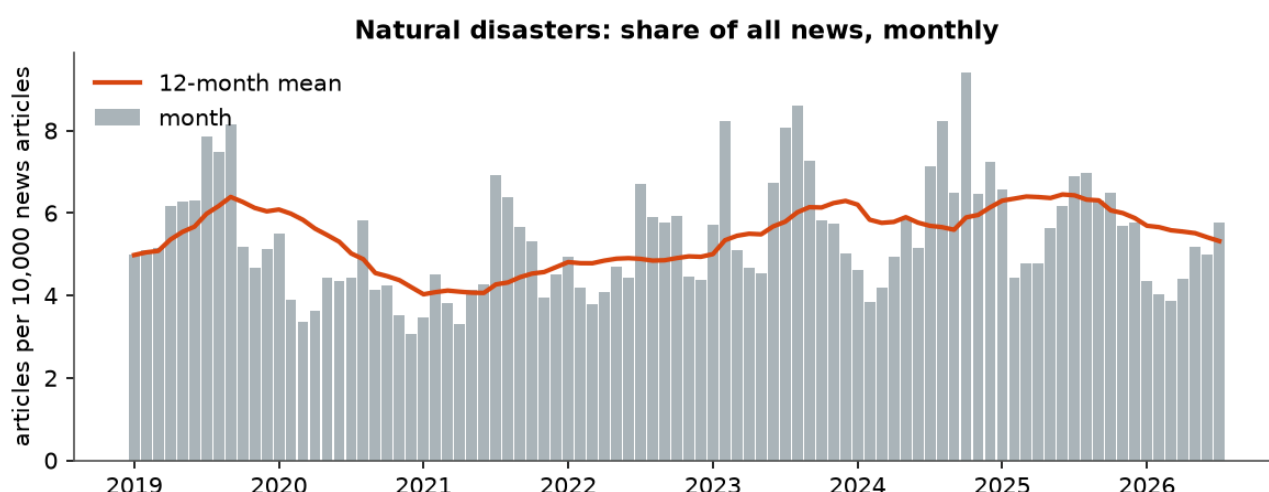


Figure 1. Coverage of natural disasters and disaster management as articles per 10,000 news articles, monthly, January 2019 – July 2026. Bars are months; the line is the 12-month mean.

Coverage is seasonal, though less so than coverage of any single hazard (Figure 2). July (10.38%), August (11.0%) and September (9.98%) together hold 31.36% of a typical year's articles, and October adds 9.26%. April is the quietest month (6.7%). January is higher (8.7%) than the months around it. The peak months coincide with the South Asian monsoon and the Atlantic hurricane season; this study does not test which events drive them.

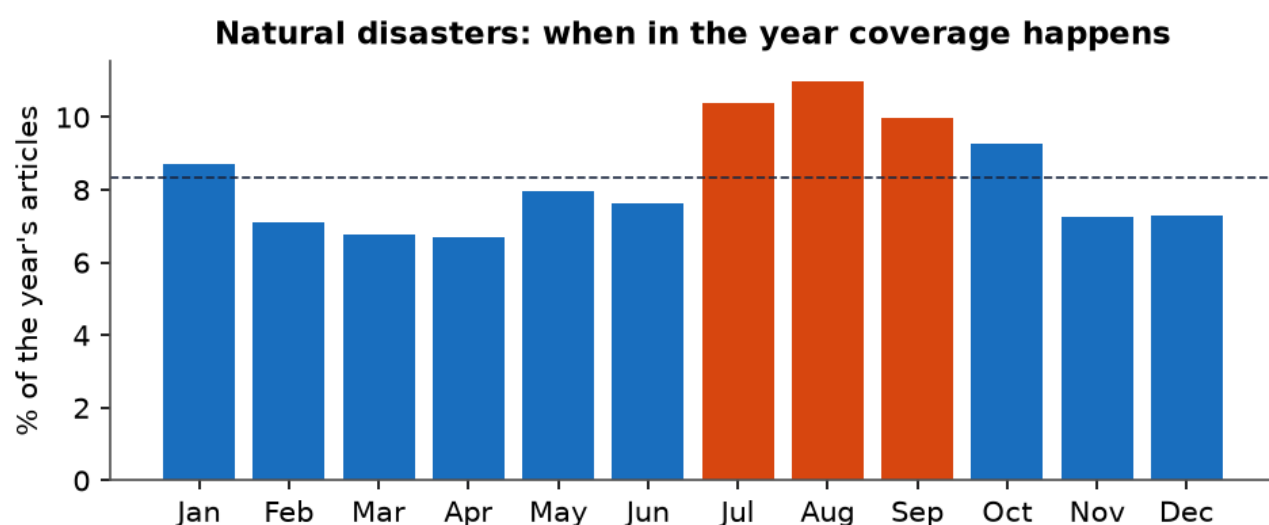


Figure 2. Share of each year's articles published in each month, averaged over 2019–2025. Dashed line = an even spread (8.3% per month).

3.2 Where

Between January 2023 and July 2026, 25,949 matched articles carried a primary location. India and the United States together hold 62.99% of them. India's share (36.78%) comes with a lift of 2.79. The United States' share (26.21%) has a lift of 0.54: disasters take a smaller share of American news than of news overall. The most over-represented countries are in South and Southeast Asia, Central Asia and the Caribbean, where Jamaica's lift is 5.66 (Table 2, Figure 3).

Country	Located articles	Share %	Lift vs all news
India	9,543	36.78	2.79
United States	6,802	26.21	0.54
Indonesia	622	2.4	8.62
Philippines	508	1.96	6.21
Australia	504	1.94	0.91
Turkey	492	1.9	5.97
Japan	451	1.74	1.64
Pakistan	438	1.69	3.72
China	413	1.59	0.6
Nigeria	342	1.32	0.96
Nepal	316	1.22	6.75
Spain	239	0.92	0.94
United Kingdom	238	0.92	0.16
Ghana	234	0.9	1.87
Afghanistan	213	0.82	9.94
Sri Lanka	201	0.77	4.88

Table 2. The 16 countries with the most located articles on natural disasters and disaster management, January 2023 – July 2026, with lift against all located news.

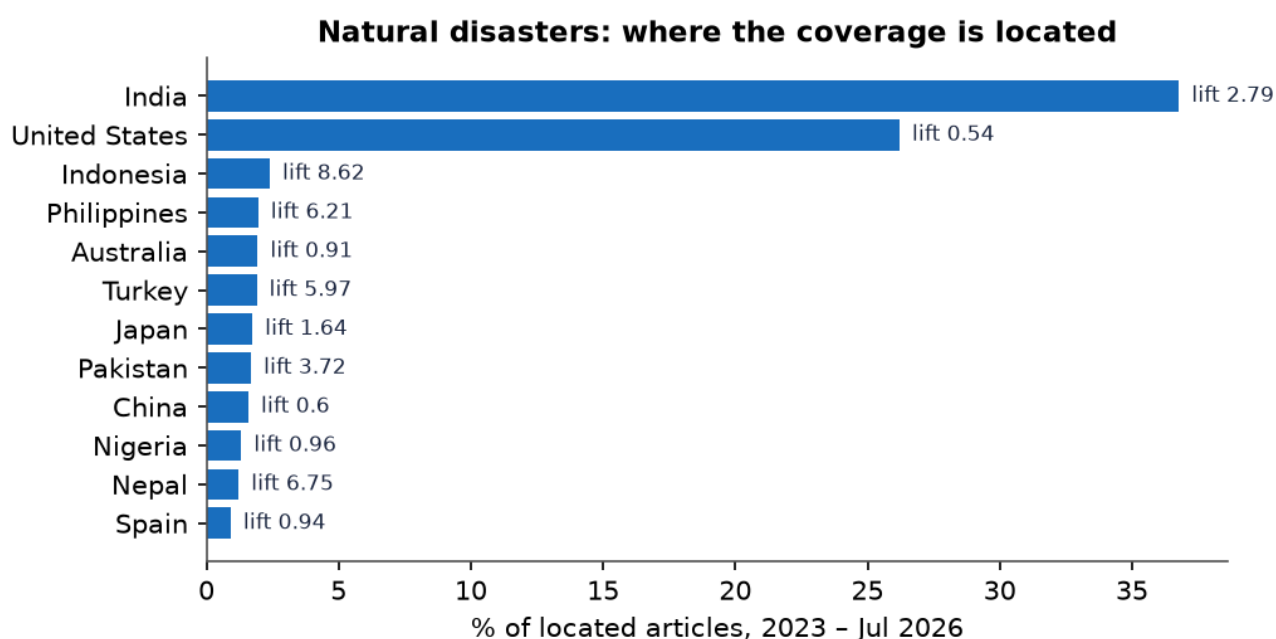


Figure 3. Leading countries by share of located articles, 2023 – Jul 2026, labelled with lift against all located news.

3.3 Geo intelligence: continents, states and shifting attention

The world map (Figure 4) shows the pattern at a glance. Natural disasters are over-represented in the news of South Asia, Southeast Asia, Afghanistan, Turkey and parts of Africa and the Caribbean. Cameroon's high lift on the map (3.85) is not a finding: most of its sampled rows carry the place tag "Centre", which in Indian news means the central government. They are under-represented in Western Europe, Canada, China and Brazil. By continent, Asia (2.31), Africa (1.46) and Oceania (1.28) are over-represented. North America (0.56), South America (0.53) and Europe (0.32) are not (Figure 7, left). Europe's low lift stands out: the United Kingdom (0.16), France (0.32) and Italy (0.4) are among the least represented countries with at least 100 articles, with Canada (0.34).

Natural disasters: which countries over- and under-cover the topic

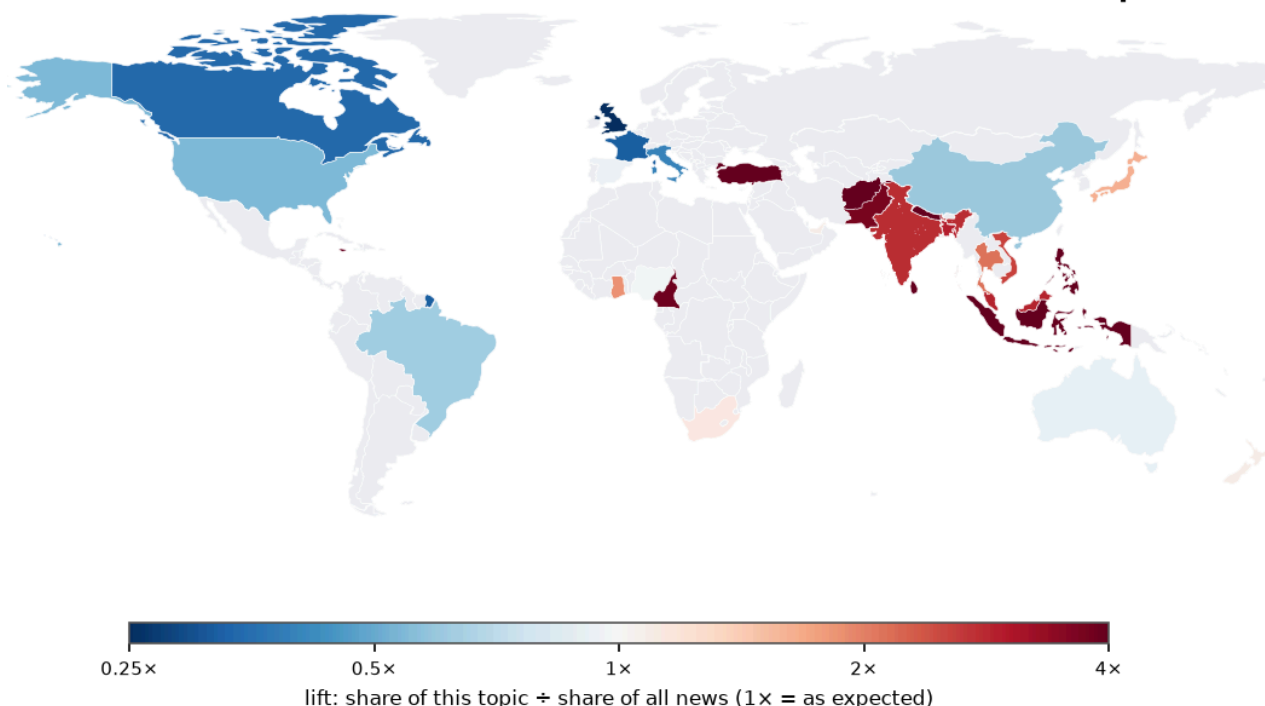


Figure 4. Lift of each country's share of located articles on natural disasters and disaster management, January 2023 - July 2026 (red = over-represented, blue = under-represented, grey = fewer than 100 articles). India is drawn with its official outline.

Within countries, the picture is sharper (Table 3). In India, coverage concentrates in the Himalayan and north-eastern states. Measured against each state's share of Indian news, Sikkim (8.49), Himachal Pradesh (7.2), Uttarakhand (5.04) and Assam (4.33) are the most over-represented, followed by the north-eastern states of Mizoram (3.8) and Tripura (2.82). Odisha (2.67) and Kerala (2.27), both exposed to cyclones or monsoon landslides, also rank high. Madhya Pradesh (0.27), Uttar Pradesh (0.41) and Delhi (0.42) are under-represented, as is Maharashtra (0.62) despite 879 articles (Figure 5). In the United States, Hawaii (15.88) leads by a wide margin, followed by North Carolina (2.73), Mississippi (2.45) and Louisiana (2.37), all on hurricane coasts. California (1.96) and Florida (1.76) also rank high. New Jersey (0.08) and Pennsylvania (0.24) are far below their weight in American news (Figure 6). An earlier build ranked Kentucky and Arizona near the top; both came from place tags derived from ordinary words, and neither now has 50 located articles.

India: state	Articles	Lift	United States: state	Articles	Lift
Sikkim	80	8.49	Hawaii	272	15.88
Himachal Pradesh	862	7.2	North Carolina	247	2.73
Uttarakhand	1,003	5.04	Mississippi	91	2.45
Assam	630	4.33	Louisiana	60	2.37
Mizoram	53	3.8	California	1,111	1.96
Tripura	58	2.82	Florida	538	1.76
Odisha	491	2.67	Tennessee	186	1.44
Kerala	491	2.27	South Carolina	53	1.43
<i>Lowest: Jharkhand</i>	113	0.52	<i>Lowest: Illinois</i>	100	0.67
Rajasthan	152	0.49	Michigan	82	0.62
Delhi	480	0.42	Pennsylvania	82	0.24
Uttar Pradesh	457	0.41	New Jersey	82	0.08
Madhya Pradesh	70	0.27			

Table 3. States with the highest and lowest lift, January 2023 – July 2026. Lift = the state's share of the country's located matched articles ÷ its share of all located news from that country. States with fewer than 50 articles are omitted.

Natural disasters: states of India by lift

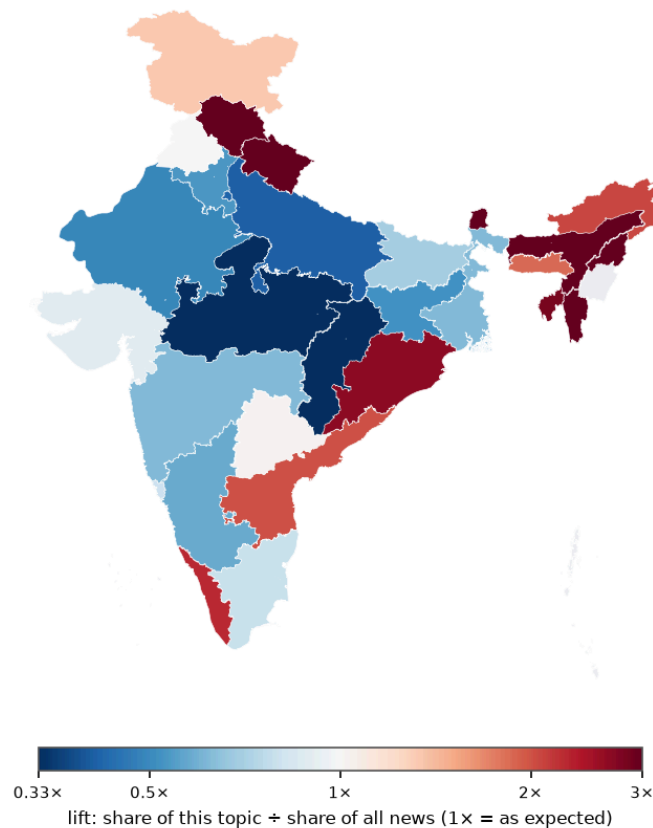


Figure 5. Lift of each Indian state's share of located articles against its share of all located Indian news, January 2023 – July 2026. Official outline; Ladakh is drawn within Jammu and Kashmir in the boundary file used.

Natural disasters: states of United States by lift

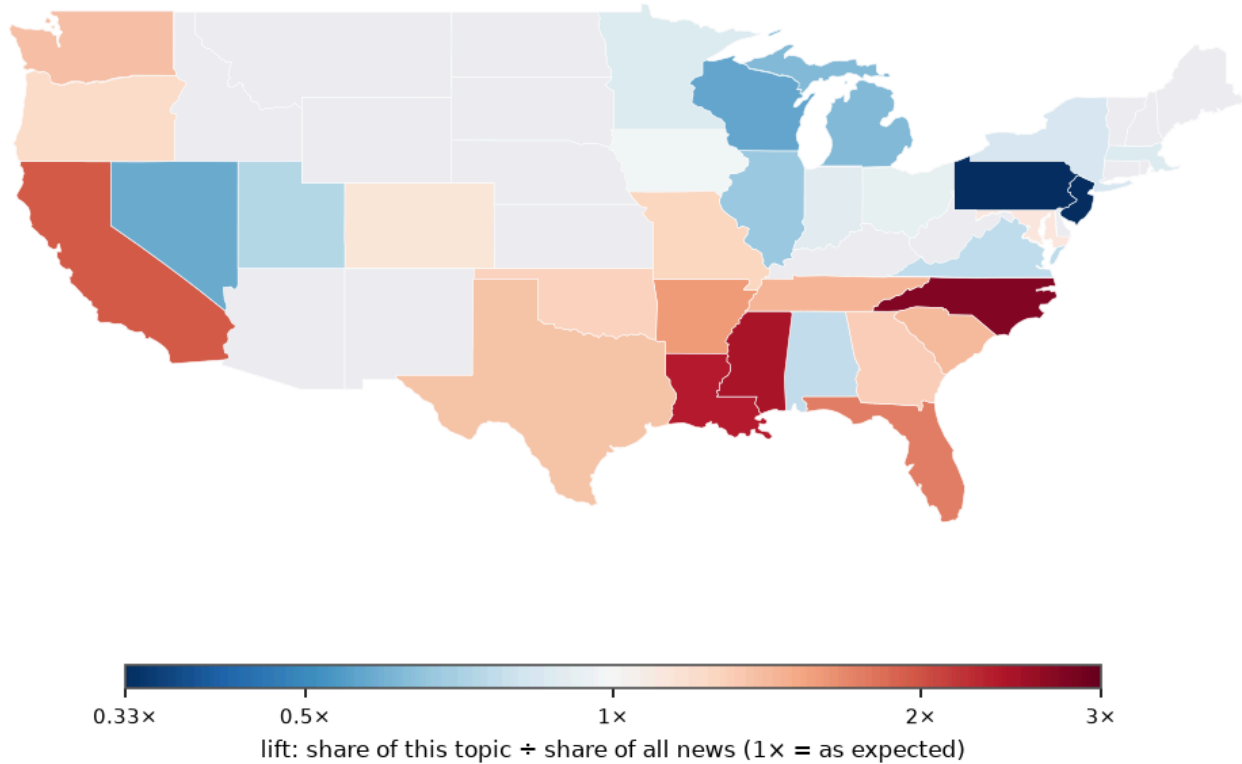


Figure 6. Lift of each US state's share of located articles against its share of all located US news, January 2023 – July 2026.

Attention also moves between countries from year to year (Figure 7, right). Measured as matched articles per 10,000 of each country's located news, Sri Lanka rose from 13.61 in 2023 to 87.83 in 2025 (6.45 times) and Indonesia from 22.24 to 77.5 (3.48 times). The United States rose modestly, from 3.15 to 4.33 (1.37 times). China (6.25 to 3.51), Nigeria (7.58 to 5.43) and India (23.54 to 19.31) fell over the same years. Turkey shows how a single disaster year moves the measure: 100.79 per 10,000 of its news in 2023, against 6.05 in 2022 and 12.69 in 2024.

Coverage is more negative than each country's news overall almost everywhere. Against that country's own baseline, the gaps are widest in Spain (81.6% negative against 30.3%), China (71.8% against 27.2%), Japan (59.2% against 23.3%) and Sri Lanka (67.2% against 34.9%). Afghanistan has the most negative coverage (93.0%, against 66.8%). The United Kingdom is the exception: 37.9% negative, in line with its news overall (36.9%).

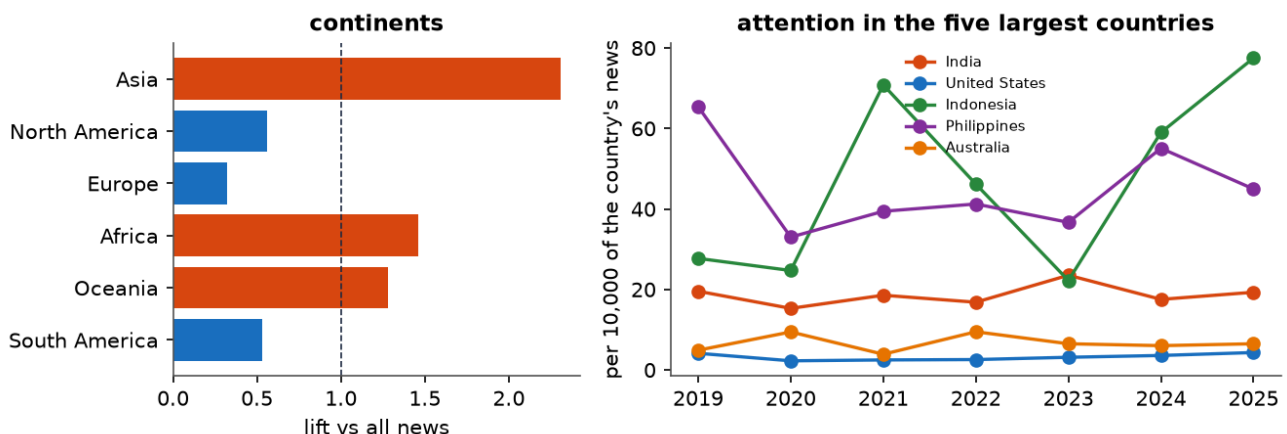


Figure 7. Left: lift by continent, January 2023 – July 2026. Right: articles per 10,000 of each country's located news, 2019–2025, for the five countries with the most articles.

3.4 Tone, urgency and themes

Coverage of natural disasters is more negative and more urgent than news in general (Figure 8). Among articles with a tone label, 53.6% are negative, against 33.6% across the index (1.6 times). The positive share (44.3%) is high for a disaster topic, because relief, preparedness and funding stories are part of it. The index's machine priority rating puts 78.9% of articles at critical level (7 or higher), against 42.6% of all news (1.85 times).

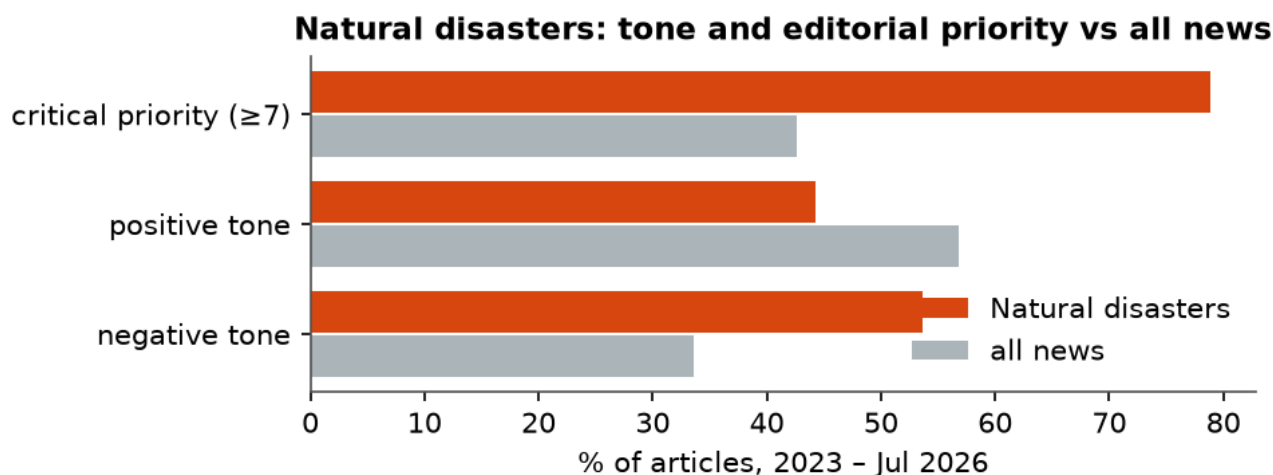


Figure 8. Tone and the share rated critical priority, articles on natural disasters and disaster management vs all news, 2023 – Jul 2026.

Themes show what these stories are about (Table 4). By count, flood mitigation (27.0% of themed articles), disaster response and recovery (20.23%) and cyclone impacts (16.81%) lead. By lift, the most specific themes are institutional: emergency preparedness and public education (347.76 times its rate in all news), response and recovery teams (316.11) and civil defence (259.41). Insurance themes, parametric and climate-related, also rank high.

Theme	Articles	Share %	Lift
emergency preparedness and public education	1,937	6.65	347.76
disaster response and recovery teams	3,013	10.35	316.11
civil defense and community protection	883	3.03	259.41
flood and water rescue operations	818	2.81	202.13
emergency shelter and evacuation management	705	2.42	176.79
parametric insurance models	182	0.63	163.17
climate-related insurance products	421	1.45	119.37
natural disaster response and recovery efforts	5,891	20.23	74.6

Table 4. Themes most specific to coverage of natural disasters and disaster management (lift against all themed news), January 2023 – July 2026.

The organisations named most often are disaster agencies: the US Federal Emergency Management Agency (2,295 articles), India's National Disaster Response Force (1,544), India's meteorological department (903 under its short name and 499 under its full name) and the US Department of Homeland Security (697). Red Cross organisations and wire services follow, which reflects how disaster news is sourced.

3.5 Research attention and invention

Research on natural disasters and disaster management grew faster than the scientific literature. Papers matching the title rule rose from 2.43 per 10,000 papers in 2015 to 3.64 in 2025, a 1.5-fold increase in share. Between 2015 and 2025, 20,032 such papers were

published. The leading venue is the International Journal of Disaster Risk Reduction (520 papers). The most-cited papers address risk perception, social vulnerability, the economics of disasters and the use of social media and crowdsourced maps in response [1–6].

News attention does not track research attention (Figure 9). Research share rose almost every year, while news share fell in 2020, rose in 2023 and has moved with disaster seasons since.

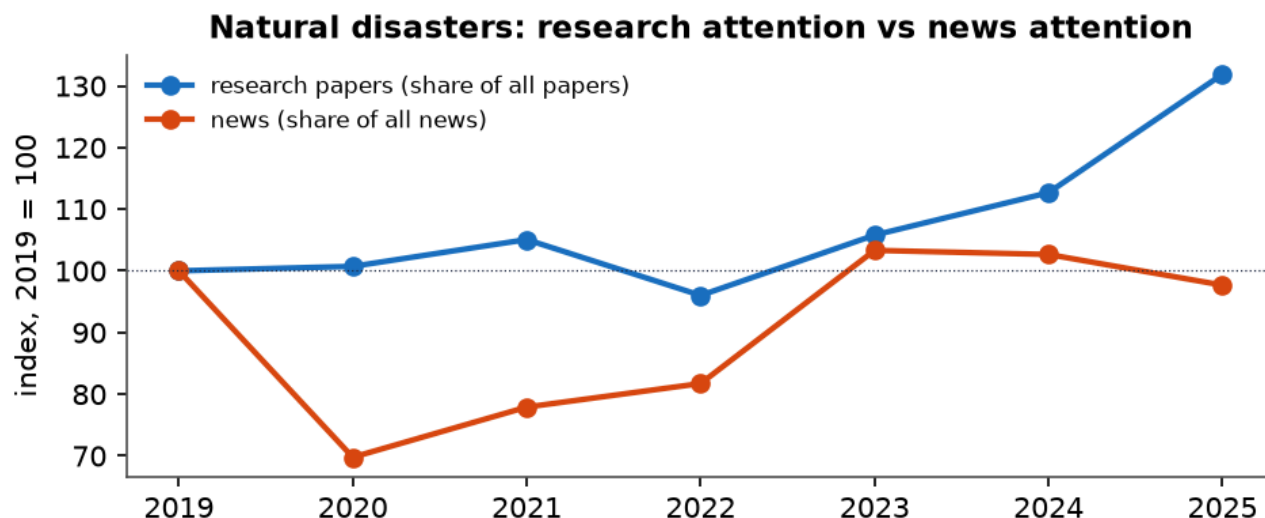


Figure 9. Research papers on natural disasters and disaster management (share of all papers) and news coverage (share of all news), each indexed to 2019 = 100.

Patenting rose faster still: 164 patent families were published in 2015 and 874 in 2024 (5.33 times). China's office holds 74.3% of office filings of these families from 2015 to 2024, followed by Japan (13.6%) and South Korea (6.1%) (Figure 10). The leading technology classes are alarm and signalling systems (G08B, 580 families), climate-change adaptation technologies (Y02A, 332) and data processing for administration (G06Q, 302).

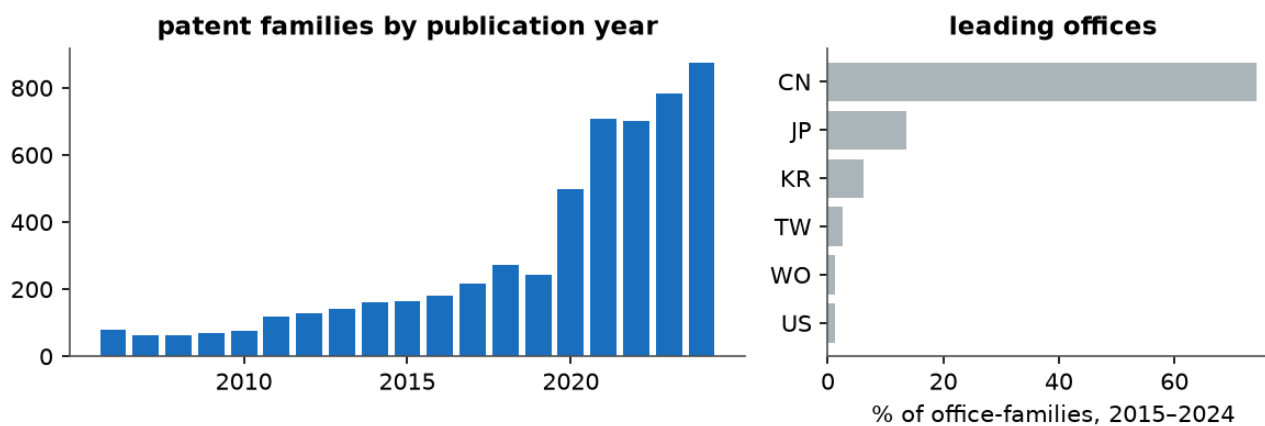


Figure 10. Disaster-prevention and relief patent families by publication year (left) and the leading filing offices, 2015–2024 (right).

4. Discussion

Three points matter for anyone who uses news as a record of natural disasters. First, coverage measures attention, not the number of disasters. This study does not test why the 2020 trough or the October 2024 peak occurred, and the 2020 figure is lowered in part by the pandemic exclusion. Second, raw shares mislead. The United States supplies about a quarter of located articles but is under-represented relative to its weight in the index.

Disasters take the largest share of attention in the news of Afghanistan, Indonesia, Nepal, the Philippines and Turkey, measured against each country's share of all located news. Third, the vocabulary itself carries institutions. In India, "disaster management" names state bodies that appear in routine rescue news and, in 2020 and 2021, in pandemic orders. That is why the exclusions matter and why India's lift should be read with care.

Research, invention and news run on different clocks. Research share grows steadily. Patent filings grow fastest and are concentrated in East Asian offices. News follows the seasons and the large events. The dataset lets researchers link the three, for example to test whether disasters with heavy coverage are followed by research or patent activity in the affected country.

5. Limitations

- **Index availability.** 92.88% of the index was readable at build time, so counts are lower bounds. Shares and lifts are less affected, because the missing part is spread across topics.
- **Coverage after May 2026.** The index thins after May 2026, so 2026 is partial and is excluded from year comparisons.
- **Scope.** The topic counts the general vocabulary of disasters, not every hazard report. A flood or earthquake story that never uses this vocabulary is not counted. Hazard-level counts are in the single-hazard releases.
- **Matching.** Matching uses the article opening. About one match in eight is off-topic (precision 87.5%), mostly rescue forces at man-made accidents. The pandemic exclusion also removes some genuine articles that mention COVID-19 beside a natural disaster, which lowers the 2020 and 2021 shares.
- **Machine labels.** Location, tone, priority and themes are machine-labelled. The city field is noisy and is not analysed. Place tags derived from ordinary words were treated as unlocated (15.3% of city-tagged articles), which lowers located counts and removed state artefacts such as Kentucky and Arizona; tags of this kind that the word list misses may remain.
- **Outlet mix.** The index over-represents English-language and Northern Hemisphere outlets, and Indian outlets are numerous. This shapes both seasonality and geography.
- **Research and patent counts.** These match titles only. Office shares reflect filing practice.

Data availability

The dataset (article sample, monthly, country and state tables, research and patent tables, all metrics) is released under CC BY-NC 4.0 with this paper. The sample holds 19,869 of 80,145 matched articles to 31 July 2026. Full article text, headlines, publishers, later articles and other topics are served by the Prism News API: <https://github.com/fliarbi/prism-news-api> (base URL <https://radar-api.fliarbi.com/news>). A worked query: `prism-news trends "natural disaster" --since 2019-01-01 --until 2026-07-31 --granularity monthly`.

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