

Floods in the News, 2019-2026: Seasonality, Geography and Tone of Global Flood Coverage, 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 floods were covered in a global news index from January 2019 to July 2026, using 411,113 de-duplicated flood articles, and set that coverage beside 57,116 research papers and 15,061 patent families on floods. Six results stand out:

1. **Seasonality.** On average 38.75% of each year's flood coverage appears in July, August and September.
2. **Attention, not occurrence.** Floods took a 39% smaller share of news in 2020 than in 2019. Their share peaked in July 2021, the month of the European and Henan floods, at 57.91 articles per 10,000.
3. **Geography.** India's share of located flood news is 1.53 times its share of all news. The United States, the largest source of located flood articles (33.75%), is under-represented at 0.7. Among the 20 countries with the most articles, Indonesia (6.2), Nepal (5.21) and the Philippines (4.85) are the most over-represented. Within India, Sikkim (16.87), Himachal Pradesh (6.3) and Assam (4.53) lead; within the United States, Vermont (9.68), Hawaii (4.14) and Kentucky (3.56).
4. **Tone and urgency.** 72.6% of flood articles are negative in tone (all news: 33.6%), and 83.4% are rated critical priority (all news: 42.6%).
5. **Measurement.** 23.3% of raw matches for flood vocabulary were automated river-gauge warnings or figurative uses. Counting them would inflate coverage, and would make it look American.
6. **Research and invention.** Flood papers grew from 6.52 to 10.42 per 10,000 papers between 2015 and 2025. Flood patent families grew 3.48-fold from 2015 to 2024, and 84.6% of them were filed in China.

Findings stated for citation

- **F1.** Between 2019 and 2025, an average of 38.75% of each year's flood news appeared in July–September, against 25% for an even spread.
- **F2.** Floods took a 39% smaller share of news in 2020 than in 2019 (19.33 vs 31.7 per 10,000 articles).
- **F3.** July 2021 was the peak month for flood news, at 57.91 articles per 10,000.
- **F4.** India's share of located flood news (20.14%) was 1.53 times its share of all news. The United States' (33.75%) was 0.7 times.
- **F5.** Indonesia (6.2), Nepal (5.21) and the Philippines (4.85) were the most over-represented countries in flood news.
- **F6.** 72.6% of flood articles were negative in tone, 2.16 times the all-news share.

- **F7.** 83.4% of flood articles were rated critical priority, 1.96 times the all-news share.
- **F8.** Climate-related displacement appeared in 12.28% of themed flood articles, 86.88 times its frequency in all news.
- **F9.** 23.3% of raw flood-vocabulary matches were automated warnings or figurative uses.
- **F10.** Flood papers rose 1.6-fold as a share of all papers between 2015 and 2025.
- **F11.** 84.6% of flood patent families (2015–2024) were filed in China.
- **F12.** Flood patent families published per year grew 3.48-fold between 2015 and 2024.
- **F13.** Within India, Sikkim (16.87), Himachal Pradesh (6.3) and Assam (4.53) had the most over-represented flood coverage.
- **F14.** Within the United States, Vermont (9.68), Hawaii (4.14) and Kentucky (3.56) had the most over-represented flood coverage.
- **F15.** Flood coverage as a share of Indonesia's news rose 12.05-fold from 2023 to 2025.

1. Introduction

Floods are the most frequent natural hazard reported worldwide, and news is often the first public record of a flood: who was affected, where, and how badly. News coverage also shapes what the public and policy-makers treat as urgent. Yet coverage is rarely measured as data in its own right. Event databases record floods. Bibliometric studies record research. Few sources record attention, meaning how much of the news a flood takes and when, where and in what tone.

This paper and its dataset do that. They combine three records for one topic: 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 (51,597 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 about floods when its opening text contains *flood*, *floods*, *flooding*, *flash flood(s)* or *floodwaters* as whole words. Two families of matches are excluded:

- templated river-gauge warnings, such as "the flood warning is extended for...";
- figurative uses ("a flood of calls", "flood the zone", "fans flood in").

Together these removed 125,222 of 536,335 raw matches (23.3%). One reviewer read 40 randomly drawn matched openings. 38 used flood in its hydrological sense (precision 95%), and in 26 (65%) flooding was the main subject.

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 flood articles divided by its share of all located articles. Place tags derived from ordinary words (714 words, such as "Congress", "Earth" and "Winter") were treated as unlocated in every location field, which removed 15.3% of city-tagged articles.

Research and patents. Research papers are de-duplicated articles and reviews (2000–2025) with a flood term in the title. Repository deposits and the computing and oil-recovery senses of "flooding" (network flooding attacks, waterflooding) are excluded. Patent families (2005–2024) use the same title rule, are counted once per filing office, and exclude oil-well and reservoir engineering.

3. Results

3.1 How much and when

The index holds 411,113 flood articles from January 2019 to July 2026. Raw counts rose from 37,423 in 2019 to 78,425 in 2025, but the share of all news did not: 31.7 per 10,000 in 2019, 33.37 in 2024 and 29.06 in 2025 (Table 1). The low point was 2020, at 19.33 per 10,000. That is 39% below 2019, in the year pandemic coverage expanded. The highest monthly share was July 2021, at 57.91 per 10,000 (Figure 1).

Year	Flood articles	All articles in index	Per 10,000
2019	37,423	11,807,177	31.7
2020	31,366	16,230,014	19.33
2021	43,934	17,281,220	25.42
2022	53,346	19,115,515	27.91
2023	60,268	20,484,506	29.42
2024	77,790	23,311,896	33.37
2025	78,425	26,990,006	29.06

Table 1. Flood articles per year and as a share of the index. 2026 (January–July) is partial and omitted.

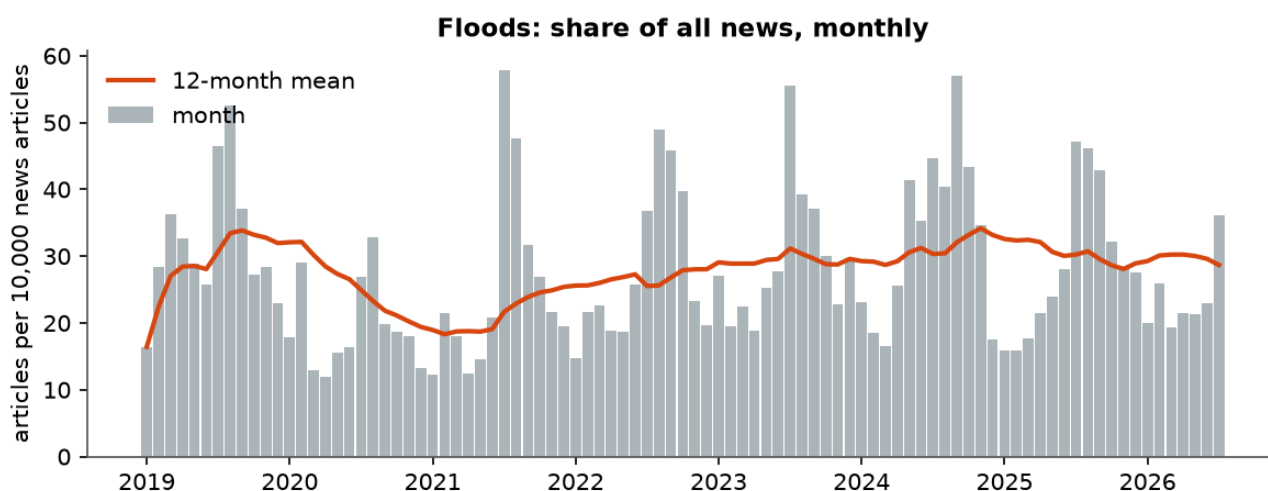


Figure 1. Flood coverage as articles per 10,000 news articles, monthly, January 2019 – July 2026 . Bars are months; the line is the 12-month mean.

Coverage is strongly seasonal (Figure 2). July (13.33%), August (13.52%) and September (11.9%) together hold 38.75% of a typical year's flood articles. April is the quietest month (5.75%). The pattern follows the Northern Hemisphere's monsoon and hurricane seasons, which dominate the index.

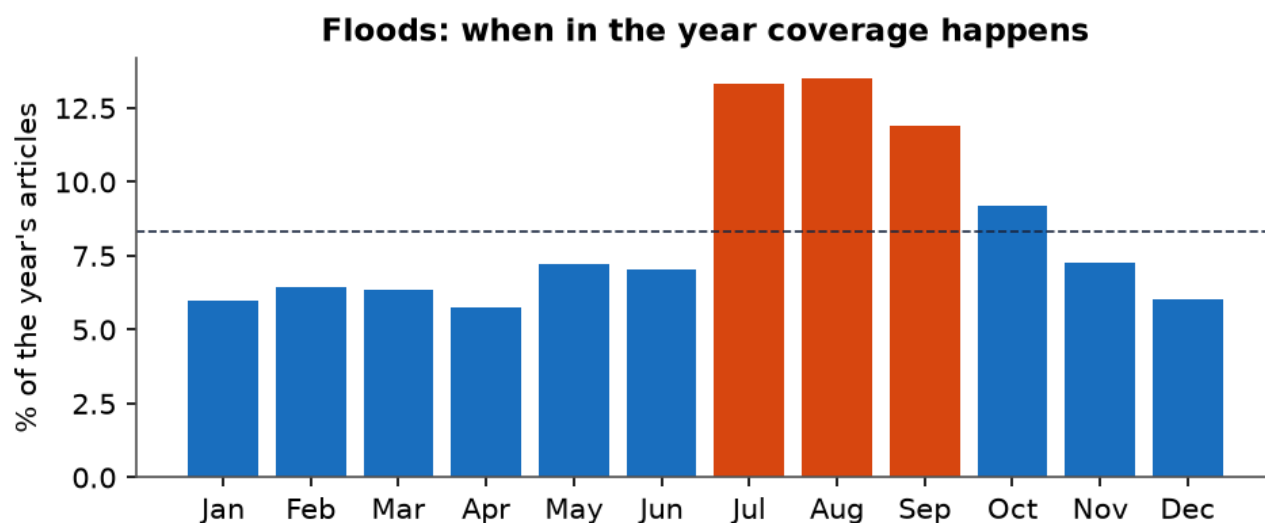


Figure 2. Share of each year's flood articles published in each month, averaged over 2019–2025. Dashed line = an even spread (8.3% per month).

3.2 Where

Between January 2023 and July 2026, 124,573 flood articles carried a primary country. The United States holds the largest raw share (33.75%), but its lift is 0.7: floods take a smaller share of American news than of news overall. India's share (20.14%) comes with a lift of 1.53. Among the 20 countries with the most located flood articles, the most over-represented are Indonesia (6.2), Nepal (5.21), the Philippines (4.85), New Zealand (3.86) and Kenya (3.37) (Table 2, Figure 3). Outside that group, Libya has the highest lift of any country with at least 100 articles (36.35, from 705 articles). Its flood share was 2,967.71 per 10,000 located Libyan articles in 2023, the year of the Derna floods, and 49.5 in 2025.

Country	Located flood articles	Share %	Lift vs all news
United States	42,049	33.75	0.7
India	25,087	20.14	1.53
United Kingdom	6,129	4.92	0.84
Australia	4,201	3.37	1.57
New Zealand	3,108	2.49	3.86
Brazil	2,597	2.08	2.41
China	2,534	2.03	0.77
Spain	2,435	1.95	2.0
Nigeria	2,219	1.78	1.3
Indonesia	2,147	1.72	6.2
Philippines	1,906	1.53	4.85
Pakistan	1,645	1.32	2.91
France	1,592	1.28	0.65
Canada	1,550	1.24	0.58
Nepal	1,171	0.94	5.21

Table 2. Leading countries in located flood news, January 2023 – July 2026, with lift against all located news.

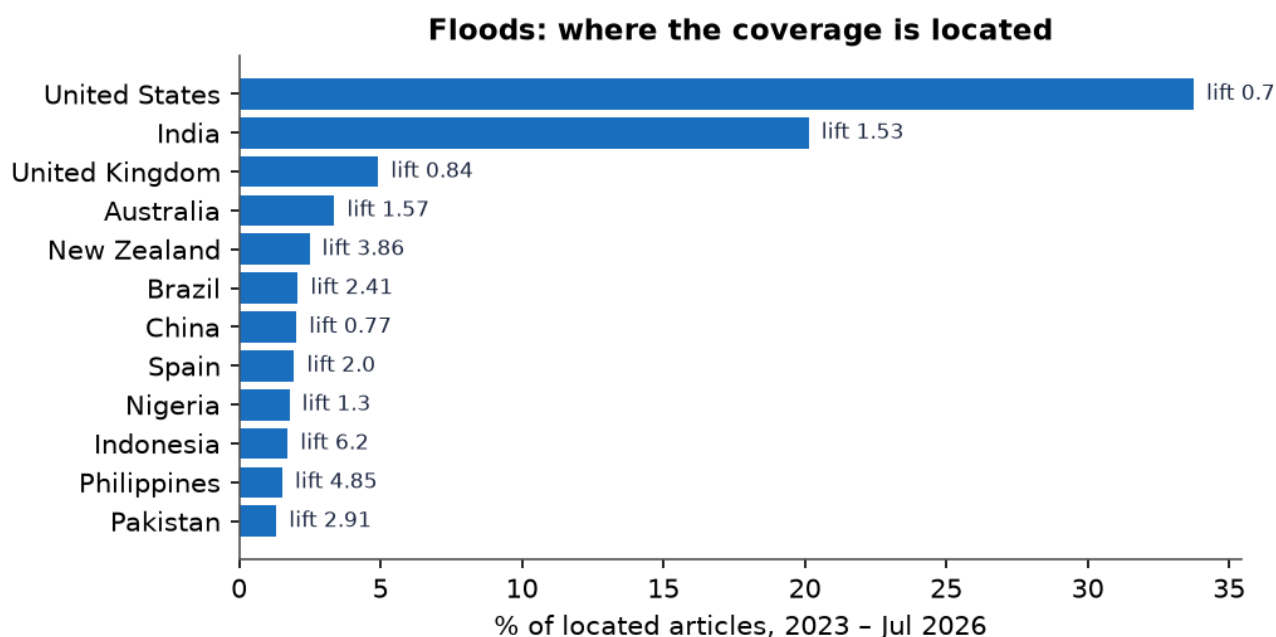


Figure 3. Leading countries by share of located flood articles, 2023 – Jul 2026, labelled with lift against all located news.

3.3 Geo intelligence: continents, states and shifting attention

The world map (Figure 4) shows the same pattern at a glance. Floods are over-represented in the news of South and Southeast Asia, East Africa, Libya, Oceania and Brazil, and under-represented in North America, most of Europe, China and Japan. By continent, Oceania (2.26), Africa (1.67), South America (1.51) and Asia (1.4) are over-represented, while North America (0.73) and Europe (0.83) are not (Figure 7, left).

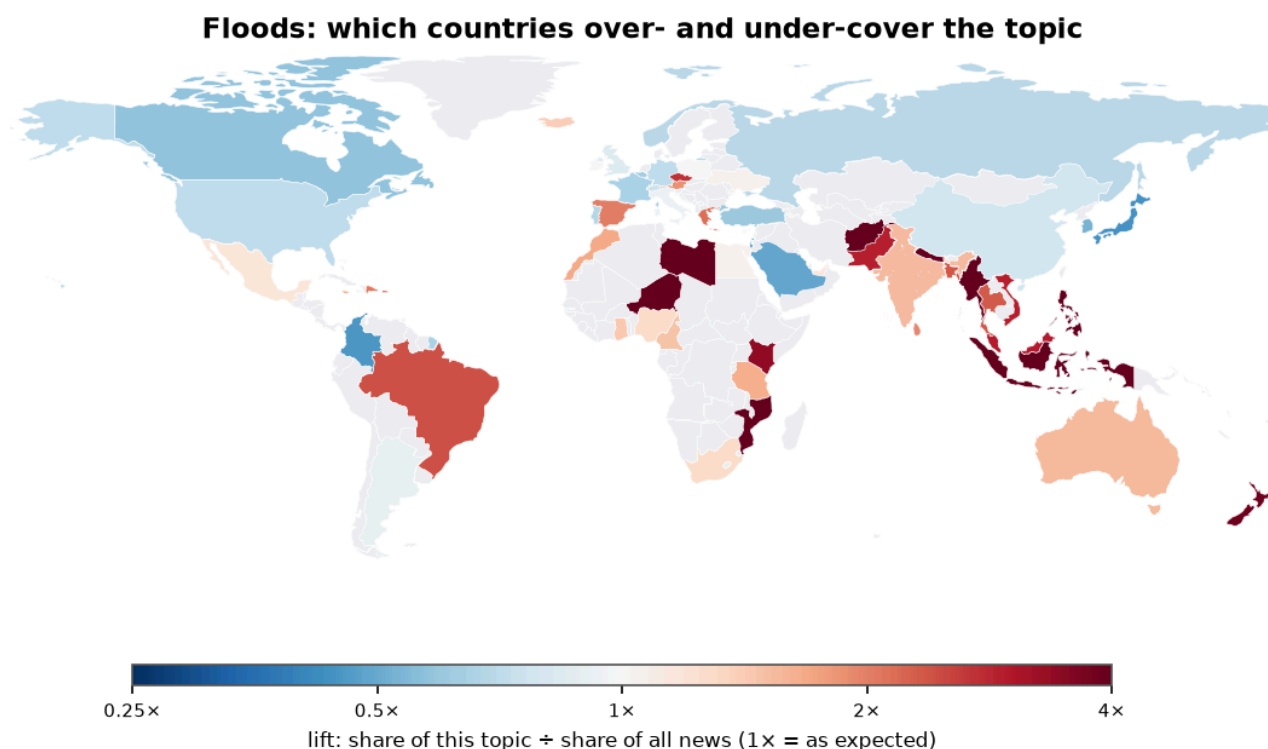


Figure 4. Lift of each country's share of located flood articles, January 2023 – July 2026 (red = over-represented, blue = under-represented, grey = fewer than 100 articles). India is drawn with its official outline.

Within countries, the picture is sharper (Table 3). In India, flood coverage concentrates in the Himalayan and north-eastern states. Of 23,839 located Indian flood articles, Delhi holds the most (2,753), at a lift of only 0.89. Measured against each state's share of Indian news, Sikkim (16.87), Himachal Pradesh (6.3), Assam (4.53), Tripura (4.15) and Punjab (3.18) are the most over-represented. Maharashtra (0.35), Karnataka (0.42) and Uttar Pradesh (0.64) are under-represented despite large article counts (Figure 5). In the United States (37,378 located articles), Vermont (9.68), Hawaii (4.14) and Kentucky (3.56) lead by lift, followed by New Mexico (2.75) and North Carolina (2.55). New Jersey (0.13) and Pennsylvania (0.46) are far below their weight in American news (Figure 6).

India: state	Articles	Lift	United States: state	Articles	Lift
Sikkim	427	16.87	Vermont	382	9.68
Himachal Pradesh	2,025	6.3	Hawaii	467	4.14
Assam	1,771	4.53	Kentucky	462	3.56
Tripura	229	4.15	New Mexico	361	2.75
Punjab	1,931	3.18	North Carolina	1,515	2.55
Jammu and Kashmir	1,173	2.09	Louisiana	368	2.21
Arunachal Pradesh	85	1.93	Alaska	168	2.21
Uttarakhand	990	1.85	Connecticut	510	1.94
<i>Lowest: Chhattisgarh</i>	132	0.41	<i>Lowest: Ohio</i>	540	0.68
Maharashtra	1,341	0.35	Pennsylvania	1,031	0.46
Jharkhand	141	0.24	New Jersey	908	0.13

Table 3. States with the most (top eight rows) and least (last three rows) over-represented flood coverage, January 2023 – July 2026, states with at least 50 articles. Ohio shares 0.68 with Nevada and Wyoming. Lift = the state's share of the country's located flood articles ÷ its share of all located news from that country.

Floods: states of India by lift

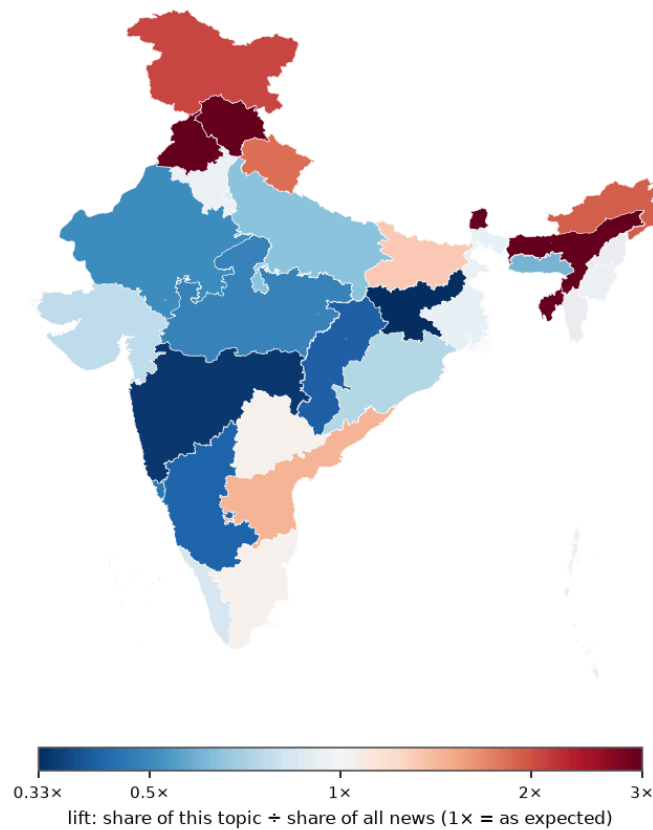


Figure 5. Lift of each Indian state's share of located flood articles against its share of all located Indian news, January 2023 – July 2026. Official outline; Ladakh is drawn within Jammu and Kashmir in the boundary file used.

Floods: states of United States by lift

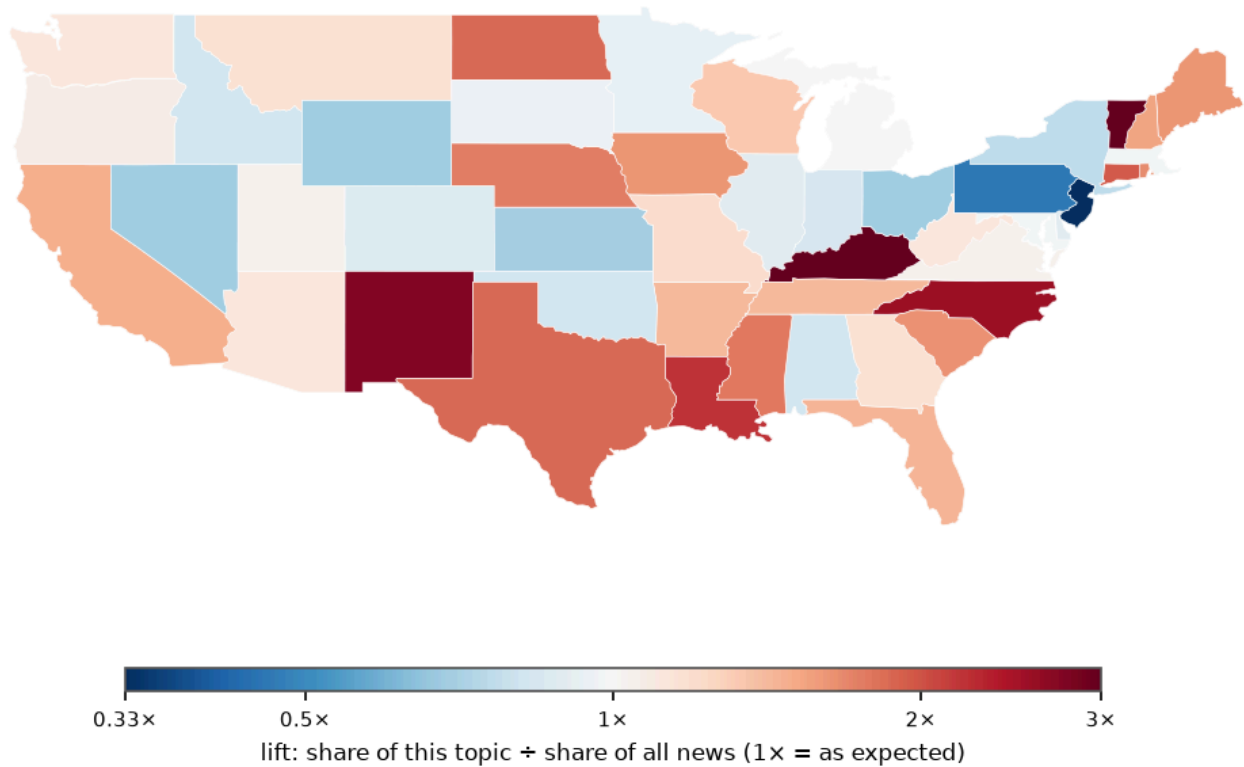


Figure 6. Lift of each US state's share of located flood articles against its share of all located US news, January 2023 – July 2026.

Attention also moves between countries from year to year (Figure 7, right). Measured as flood articles per 10,000 of each country's located news, Indonesia rose from 31.68 in 2023 to 381.73 in 2025 (12.05 times), the Philippines 3.87 times and Spain 2.8 times. Among countries with at least 100 flood articles in 2025, Ireland (0.18), Italy (0.29), New Zealand (0.36) and Kenya (0.37) fell most over the same years, after high levels in 2023 or 2024. Libya and Ukraine fell further from single-year spikes but had fewer than 100 flood articles in 2025, so their ratios are not ranked. Flood coverage is negative in tone everywhere. Among the 15 countries with the most labelled flood articles, it is most negative relative to each country's news overall in Spain (88.3% negative against 30.3%) and China (84.0% against 27.2%). Across all countries in the tone table, the widest gap is in Greece (91.1% against 31.2%, 337 articles).

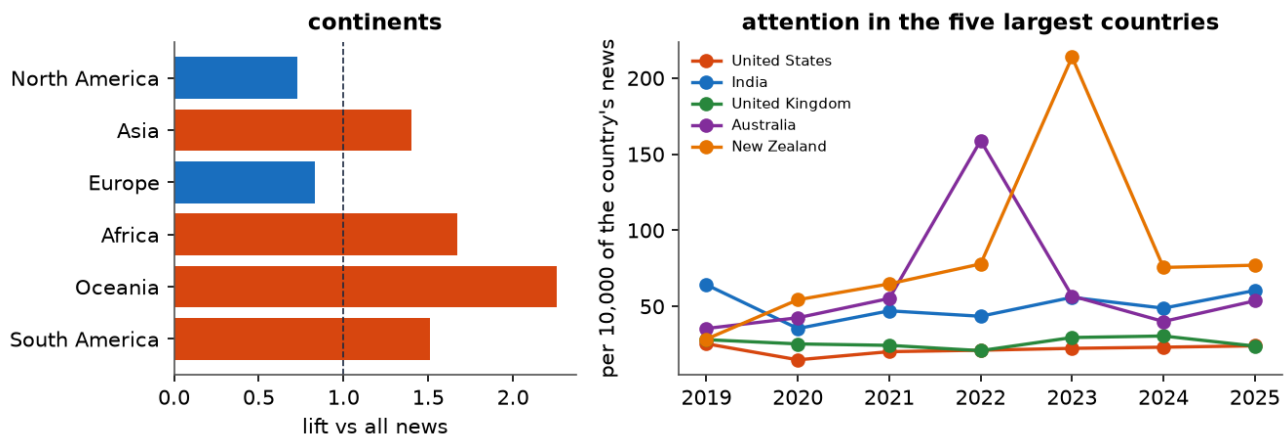


Figure 7. Left: lift by continent, January 2023 – July 2026. Right: flood articles per 10,000 of each country's located news, 2019–2025, for the five countries with the most articles.

3.4 Tone, urgency and themes

Flood coverage is far more negative and more urgent than news in general (Figure 8). Among articles with a tone label, 72.6% are negative, against 33.6% across the index (2.16 times). Editorial priority puts 83.4% of flood articles at critical level (7 or higher), against 42.6% of all news (1.96 times).

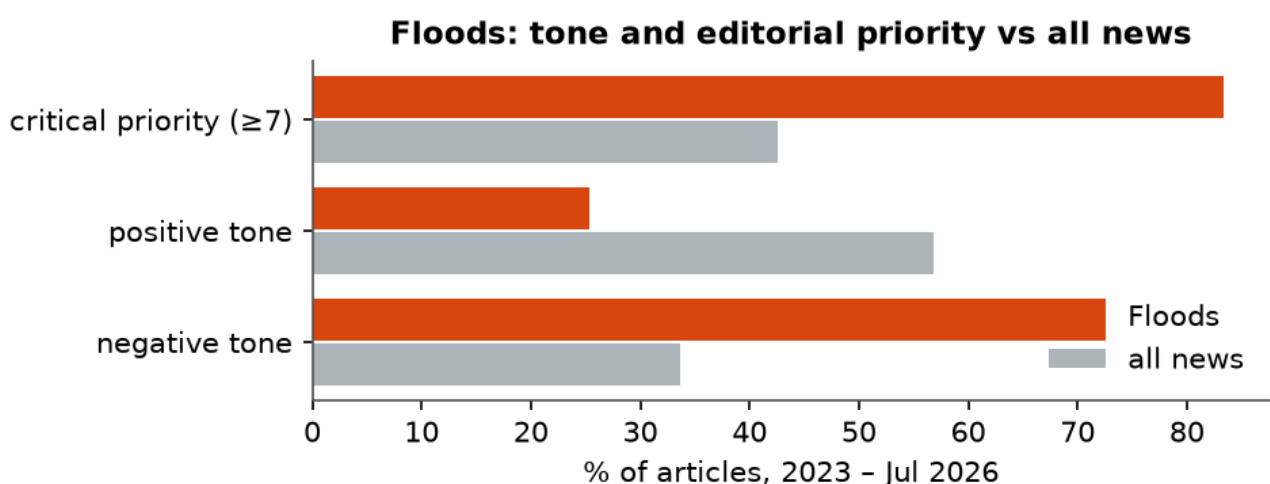


Figure 8. Tone and the share rated critical priority, flood articles vs all news, 2023 – Jul 2026.

Themes show what flood stories are about (Table 4). Mitigation and case studies are the most common (47.63% of themed articles). Climate-related displacement appears in 12.28%, 86.88 times its rate in all news. Rescue operations, drainage design and flood-control engineering are smaller but highly specific to the topic.

Theme	Articles	Share %	Lift
flood mitigation strategies and case studies	73,782	47.63	92.99
flood and water rescue operations	1,882	1.21	87.41
climate-related displacement and refugee crises	19,027	12.28	86.88
extreme weather event preparedness guides	34,259	22.11	85.41
hurricane/cyclone impact studies and preparedness	35,269	22.77	82.76
natural disaster response and recovery efforts	32,436	20.94	77.2
stormwater drainage system design	676	0.44	72.6
hydraulic systems and flood control	1,406	0.91	70.63

Table 4. Themes most specific to flood coverage (lift against all themed news), January 2023 – July 2026.

The organisations named most often are emergency and weather agencies: the Federal Emergency Management Agency (6,457 articles), the National Weather Service (3,671), India's meteorological department (2,634), the Environment Agency (1,904) and the Met Office (1,666). Wire services also rank high, which reflects how flood news is sourced.

3.5 Research attention and invention

Research on floods grew faster than the scientific literature. Papers with a flood term in the title rose from 6.52 per 10,000 papers in 2015 to 10.42 in 2025, a 1.6-fold increase in share, while the total literature in the corpus grew by a factor of 1.0 over the same years. Between 2015 and 2025, 57,116 such papers were published. The most-cited include work on global flood risk under climate change and on coastal exposure to sea-level rise [1–4].

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

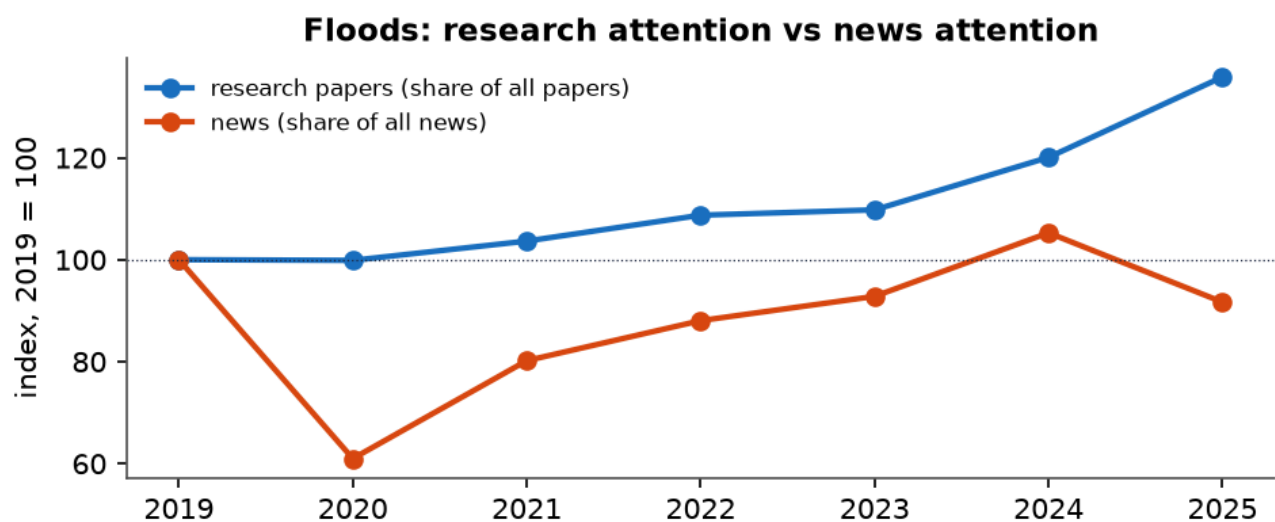


Figure 9. Research papers with flood in the title (share of all papers) and flood news (share of all news), each indexed to 2019 = 100.

Patenting rose faster still: 693 flood-related patent families were published in 2015 and 2,412 in 2024 (3.48 times). China's office holds 84.6% of families from 2015 to 2024, followed by the United States (3.7%) and South Korea (3.1%) (Figure 10). The leading technology classes are climate-change adaptation technologies (Y02A, 1,491 families) and hydraulic engineering (E02B, 1,258).

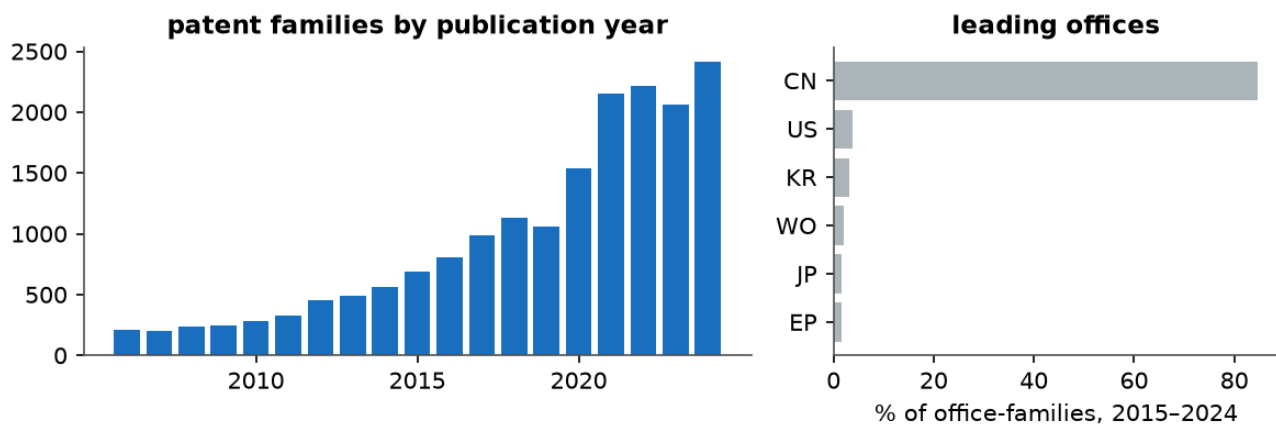


Figure 10. Flood-related patent families by publication year (left) and the leading filing offices, 2015–2024 (right).

4. Discussion

Three points matter for anyone who uses news as a record of floods. First, coverage measures attention. The 2020 trough and the July 2021 peak reflect what else was in the news and which floods struck where the press is dense, not the number of floods. Second, raw shares mislead. The United States leads flood news in raw terms but is under-represented relative to its weight in the index. Countries that face frequent, deadly floods (Indonesia, Nepal, the Philippines, Pakistan and Kenya, and Libya after the Derna floods) are where floods take the largest share of attention. Third, a large share of what keyword searches return as "flood news" is not journalism: automated warnings and figurative language made up nearly a quarter of raw matches.

Research, invention and news run on different clocks. Research share grows steadily. Patent filings grow fastest and are concentrated in one office. News follows the seasons and the big events. The dataset lets researchers link the three, for example to test whether flood events 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.
- **Matching.** Matching uses the article opening. Articles that mention floods only later are missed, and 5% of matches are not about floods.
- **Machine labels.** Location, tone, priority and themes are machine-labelled. The city field is noisy and is not analysed.
- **Place tags.** Place tags derived from ordinary words were treated as unlocated (15.3% of city-tagged articles). A few real places that share such a name (Mobile, Alabama) are lost with them, and tags that survive the rule can still be wrong.
- **Outlet mix.** The index over-represents English-language and Northern Hemisphere outlets. This shapes both seasonality and geography.
- **Research and patent counts.** These match titles only. Office shares reflect filing practice; utility models are numerous in China.

Data availability

The dataset (article sample, monthly and country tables, research and patent tables, all metrics) is released under CC BY-NC 4.0 with this paper. The sample holds 51,597 of 410,970 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 "flood" --since 2019-01-01 --until 2026-07-31 --granularity monthly.

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