

Hurricanes in the News, 2019-2026: Seasonality, Geography and Tone of Global Tropical-Cyclone 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 hurricanes and other tropical cyclones (typhoons, cyclones and tropical storms) were covered in a global news index from January 2019 to July 2026, using 296,333 de-duplicated articles, and set that coverage beside 21,904 research papers (2015-2025) and 2,195 patent families (2015-2024) on the same storms. Six results stand out:

1. **Seasonality.** On average 49.84% of each year's tropical-cyclone coverage appears in August, September and October. September alone holds 19.07%.
2. **Attention, not occurrence.** The topic's share of news peaked in October 2024, the month of Hurricane Milton, at 102.1 articles per 10,000. Its 2025 share (18.01 per 10,000) was 37.5% below 2019 (28.8), so attention rose and fell from season to season rather than following a trend.
3. **Geography.** The United States holds 57.99% of located coverage, 1.2 times its share of all news. India's share (8.64%) is only 0.65 times its weight. Mayotte (138.48), Vanuatu (27.38), Jamaica (21.09) and Grenada (15.72) are the most over-represented places. Within India, Puducherry (15.06), Odisha (6) and Mizoram (5.86) lead; within the United States, North Carolina (6.37), Louisiana (5.75) and Florida (5.67). Among the 17 countries with the most located articles, attention rose most from 2023 to 2025 in Sri Lanka and Jamaica and fell most in New Zealand.
4. **Tone and urgency.** 69.2% of articles are negative in tone (all news: 33.6%), and 73.1% are rated critical priority by the index's machine rating (all news: 42.6%).
5. **Measurement.** 9.34% of raw matches for storm vocabulary were other senses: sports teams named Hurricanes or Cyclones, fighter aircraft, hacking groups named Typhoon and figurative uses.
6. **Research and invention.** The research share of the topic more than doubled between 2004 and 2006 (1.63 to 4.06 papers per 10,000) and has been flat since 2015 (2.85 in 2015, 2.94 in 2025). Patent families grew 3.74-fold from 2015 to 2024, and China's office accounted for 87.8% of office filings.

Findings stated for citation

- **F1.** Between 2019 and 2025, an average of 49.84% of each year's tropical-cyclone news appeared in August-October, against 25% for an even spread.
- **F2.** October 2024 was the peak month, at 102.1 articles per 10,000, narrowly above September 2019 (100.74).
- **F3.** The topic's share of news was 1.42 times higher in 2024 than in 2023; the 2025 share was 37.5% below 2019.

- **F4.** The United States' share of located coverage (57.99%) was 1.2 times its share of all news; India's (8.64%) was 0.65 times.
- **F5.** Mayotte (138.48), Vanuatu (27.38), Jamaica (21.09), Grenada (15.72) and Mozambique (15.4) were the most over-represented places.
- **F6.** 69.2% of articles were negative in tone, 2.06 times the all-news share.
- **F7.** 73.1% of articles were rated critical priority, 1.72 times the all-news share.
- **F8.** Storm tracking appeared in 29.74% of themed articles, 265.08 times its frequency in all news.
- **F9.** 9.34% of raw storm-vocabulary matches were other senses of the words.
- **F10.** The research share rose 2.49-fold between 2004 and 2006 and was flat between 2015 and 2025.
- **F11.** China's office accounted for 87.8% of office filings of patent families (2015–2024).
- **F12.** Patent families published per year grew 3.74-fold between 2015 and 2024.
- **F13.** Within India, Puducherry (15.06), Odisha (6), Mizoram (5.86), Andhra Pradesh (5.15) and Tamil Nadu (4.79) had the most over-represented coverage.
- **F14.** Within the United States, North Carolina (6.37), Louisiana (5.75), Florida (5.67) and Hawaii (4.29) had the most over-represented coverage.
- **F15.** Coverage as a share of Jamaica's news (matched articles per 10,000 of that country's news) rose 27.11-fold from 2023 to 2025; New Zealand's fell to 0.14 of its 2023 level.
- **F16.** The Philippines' share of located coverage was 8.5 times its share of all news.

1. Introduction

Tropical cyclones are among the deadliest and costliest natural hazards. They carry different names in different oceans: hurricanes in the Atlantic and the eastern Pacific, typhoons in the western Pacific, and cyclones in the Indian Ocean and the South Pacific. News is often the first public record of a storm: its track, the warnings issued, who was evacuated and what was lost. Coverage also shapes what the public and policy-makers treat as urgent. Yet coverage is rarely measured as data in its own right. Best-track databases record storms, and bibliometric studies record research. Few sources record attention, meaning how much of the news a storm 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 (73,723 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, a machine-assigned 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 tropical cyclones when its opening text contains *hurricane*, *hurricanes*, *cyclone*, *tropical cyclone(s)*, *typhoon*, *super typhoon* or *tropical storm(s)* as whole words. The plural *cyclones* and *typhoons* are not used, because most of their matches name sports teams or aircraft. Several families of matches are excluded:

- sports teams: the Carolina and Miami Hurricanes, the Hurricanes of Super Rugby and the Big Bash League, the Iowa State Cyclones and others;
- aircraft and products: the Hawker Hurricane, the Eurofighter Typhoon, cyclone separators and vacuum cleaners;
- hacking groups named Typhoon (such as "Salt Typhoon"), and the extratropical "bomb cyclone";
- figurative uses ("a political hurricane", "in the eye of the hurricane").

Together these removed 30,543 of 326,876 raw matches (9.34%). One reviewer read 40 randomly drawn matched openings. 36 referred to a tropical storm system (precision 90%), and in 30 (75%) such a storm was the main subject. The four false matches were a figurative use, a football club rendered as "hurricane" in translation and two local items whose storm link was not stated in the opening.

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 place's share of matched articles divided by its share of all located articles. Places with fewer than 50 articles are left out of the text. Place tags derived from ordinary words (such as "Congress", "Earth", "Winter", "Mobile" and "Hurricane") 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 *hurricane*, *tropical cyclone*, *typhoon* or *tropical storm* in the title. Repository deposits, cyclone separators and combustors, the extratropical sense and the aircraft senses are excluded. The bare word *cyclone* is not used for papers, because most such titles concern separators. Patent families (2006–2024) match *hurricane*, *typhoon*, *tropical cyclone*, *hurricane-resistant* or *storm surge* in the title, are counted once per filing office, and exclude separators, vacuum cleaners, filters, lamps and aircraft.

3. Results

3.1 How much and when

The index holds 296,333 tropical-cyclone articles from January 2019 to July 2026. Raw counts rose from 34,008 in 2019 to 48,602 in 2025, but the share of all news did not (Table 1). It was 28.8 per 10,000 in 2019, fell to 17.93 in 2021, rose to 27.14 in 2024 and fell back to 18.01 in 2025. The 2024 share was 1.42 times the 2023 share. The highest monthly share was October 2024, the month of Hurricane Milton and of the aftermath of Hurricane Helene, at 102.1 per 10,000. September 2019, the month of Hurricane Dorian, was almost as high, at 100.74 (Figure 1).

Year	Matched articles	All articles in index	Per 10,000
2019	34,008	11,807,177	28.8
2020	33,517	16,230,014	20.65
2021	30,993	17,281,220	17.93
2022	35,569	19,115,515	18.61
2023	39,285	20,484,506	19.18
2024	63,258	23,311,896	27.14
2025	48,602	26,990,006	18.01

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

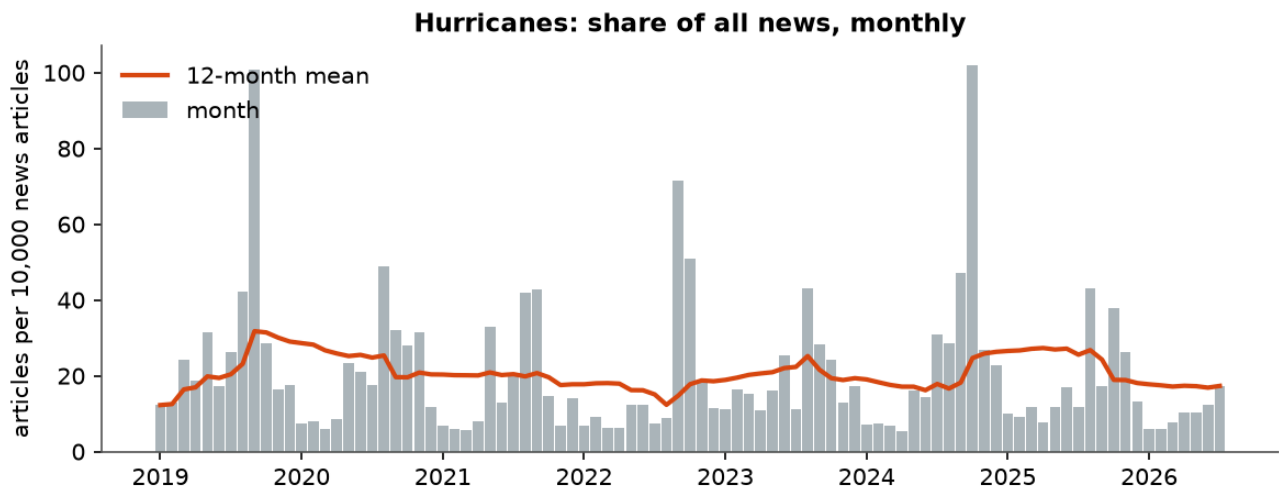


Figure 1. Tropical-cyclone coverage as articles per 10,000 news articles, monthly, January 2019 – July 2026. Bars are months; the line is the 12-month mean.

Coverage is strongly seasonal (Figure 2). August (15.24%), September (19.07%) and October (15.53%) together hold 49.84% of a typical year's articles, and June to November, the Atlantic season, holds 70.54%. May (8.25%) stands out among the early months, when cyclones form over the Bay of Bengal and the Arabian Sea. April is the quietest month (3.55%).

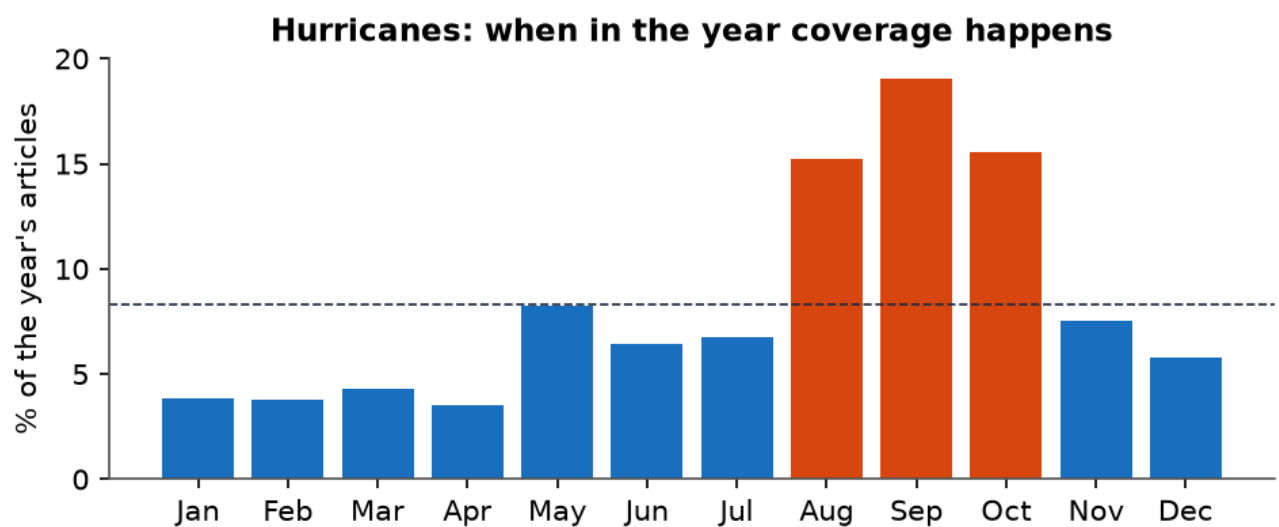


Figure 2. Share of each year's tropical-cyclone articles published in each month, averaged over 2019–2025. Dashed line = an even spread (8.3% per month).

3.2 Where

Between January 2023 and July 2026, 93,114 matched articles carried a primary location. The United States holds 57.99% of them, with a lift of 1.2: unlike floods, tropical cyclones take a larger share of American news than of news overall. India's share (8.64%) comes with a lift of 0.65. The most over-represented places are islands and coasts in the storm belts: the Caribbean, the south-west Indian Ocean and the western Pacific (Table 2, Figure 3).

Country	Located articles	Share %	Lift vs all news
United States	53,993	57.99	1.2
India	8,048	8.64	0.65
Australia	2,856	3.07	1.43
New Zealand	2,803	3.01	4.65
Philippines	2,495	2.68	8.5
China	2,400	2.58	0.98
Mexico	1,897	2.04	6.59
Jamaica	1,671	1.79	21.09
Vietnam	762	0.82	4.49
Puerto Rico	751	0.81	10.55
Mayotte	469	0.5	138.48
Vanuatu	183	0.2	27.38
Grenada	103	0.11	15.72
Mozambique	266	0.29	15.4
Malawi	396	0.43	13.86
Barbados	265	0.28	13.7
Madagascar	289	0.31	12.36
The Bahamas	218	0.23	12.13
Cuba	346	0.37	10.82

Table 2. Leading and most over-represented places in located tropical-cyclone news, January 2023 – July 2026, with lift against all located news.

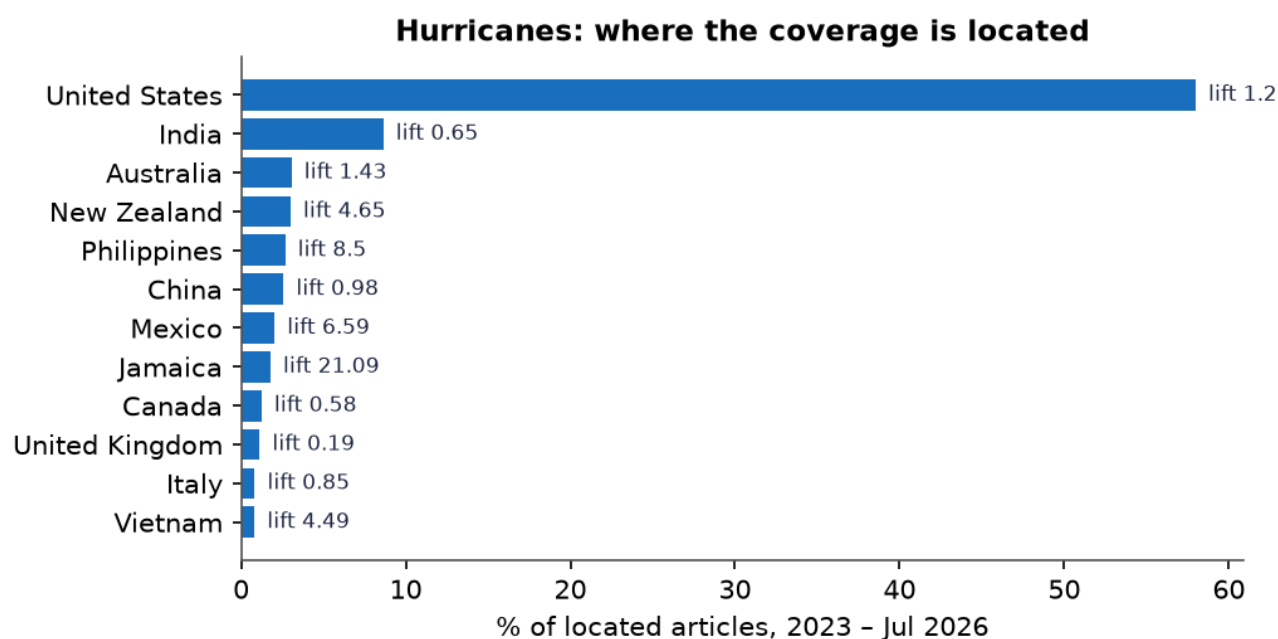


Figure 3. Leading countries by share of located tropical-cyclone articles, 2023 – Jul 2026, labelled with lift against all located news.

3.3 Geo intelligence: continents, states and shifting attention

The world map (Figure 4) shows the storm belts. Tropical cyclones are over-represented in the news of the Caribbean and Central America, Mexico, the Philippines, Vietnam, Taiwan, Madagascar, Mozambique and Malawi, and under-represented in most of Europe, Russia and South America. By continent, Oceania (2.5) and North America (1.35) are over-represented, while Asia (0.8), Africa (0.57), South America (0.43) and Europe (0.26) are not (Figure 7, left). Asia's low lift may partly reflect the large weight of inland India and China in located Asian news.

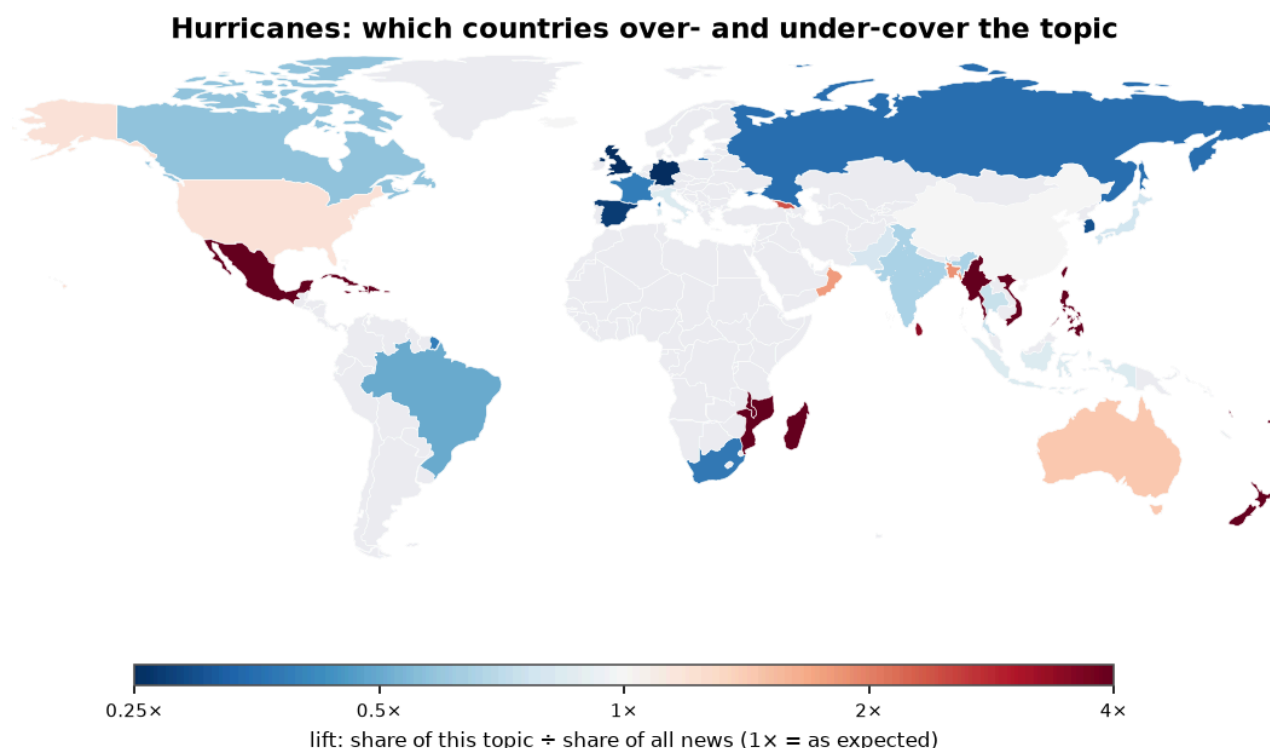


Figure 4. Lift of each country's share of located tropical-cyclone articles, January 2023 – July 2026 (red = over-represented, blue = under-represented, grey = fewer than 100 articles). India is drawn with its official outline.

Within countries, the picture is sharper (Table 3). In India, coverage concentrates on the east coast. Measured against each state's share of Indian news, Puducherry (15.06), Odisha (6), Mizoram (5.86), Andhra Pradesh (5.15), Tamil Nadu (4.79) and Gujarat (3.72) are the most over-represented. Tamil Nadu has the most articles (1,828, or 24.02% of located Indian articles). Uttar Pradesh (0.15), Maharashtra (0.26), Karnataka (0.28) and Delhi (0.29) are under-represented despite their weight in Indian news (Figure 5). In the United States, coverage concentrates on the Atlantic and Gulf coasts and Hawaii: North Carolina (6.37), Louisiana (5.75), Florida (5.67), Hawaii (4.29) and South Carolina (3.41) lead by lift, and Florida alone holds 30.53% of located US articles. New Jersey (0.09), Pennsylvania (0.22) and Minnesota (0.3) are far below their weight in American news (Figure 6). Utah, which earlier looked over-represented because the place tagger read the word "hurricane" as the town of Hurricane, Utah, now has a lift of 0.49, since such ordinary-word tags count as unlocated.

India: state	Articles	Lift	United States: state	Articles	Lift
Puducherry	99	15.06	North Carolina	4,785	6.37
Odisha	944	6	Louisiana	1,212	5.75
Mizoram	70	5.86	Florida	14,410	5.67
Andhra Pradesh	893	5.15	Hawaii	611	4.29
Tamil Nadu	1,828	4.79	South Carolina	1,052	3.41
Gujarat	936	3.72	Georgia	2,246	2.55
West Bengal	694	2.61	Mississippi	606	1.97
Delhi	282	0.29	Minnesota	225	0.3
Karnataka	120	0.28	Pennsylvania	627	0.22
Maharashtra	312	0.26	New Jersey	796	0.09
Uttar Pradesh	149	0.15			

Table 3. States with the highest and lowest lift in tropical-cyclone coverage, January 2023 – July 2026 (states with at least 50 articles). Lift = the state's share of the country's located matched articles ÷ its share of all located news from that country.

Hurricanes: states of India by lift

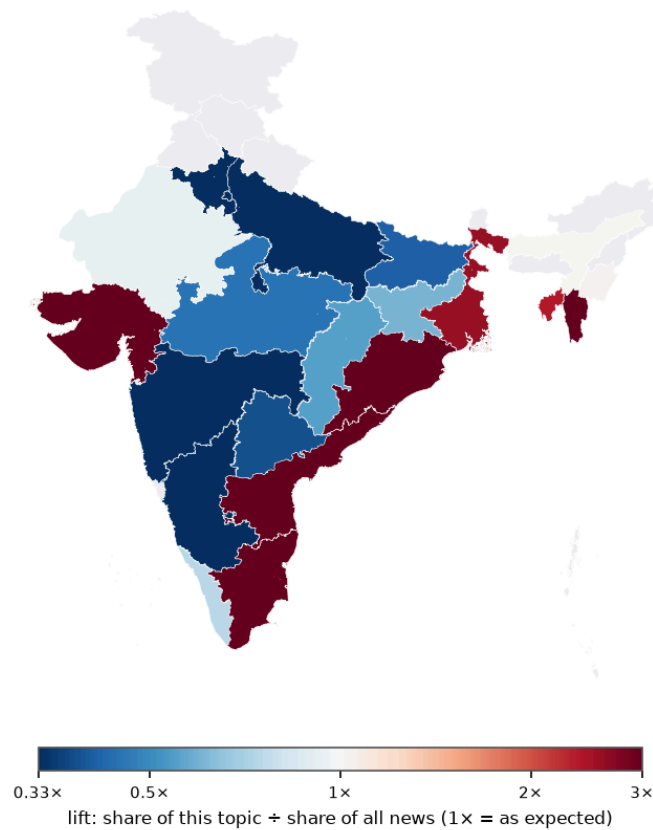


Figure 5. Lift of each Indian state's share of located tropical-cyclone articles against its share of all located Indian news, January 2023 – July 2026. Official outline; Ladakh is drawn within Jammu and Kashmir in the boundary file used.

Hurricanes: states of United States by lift

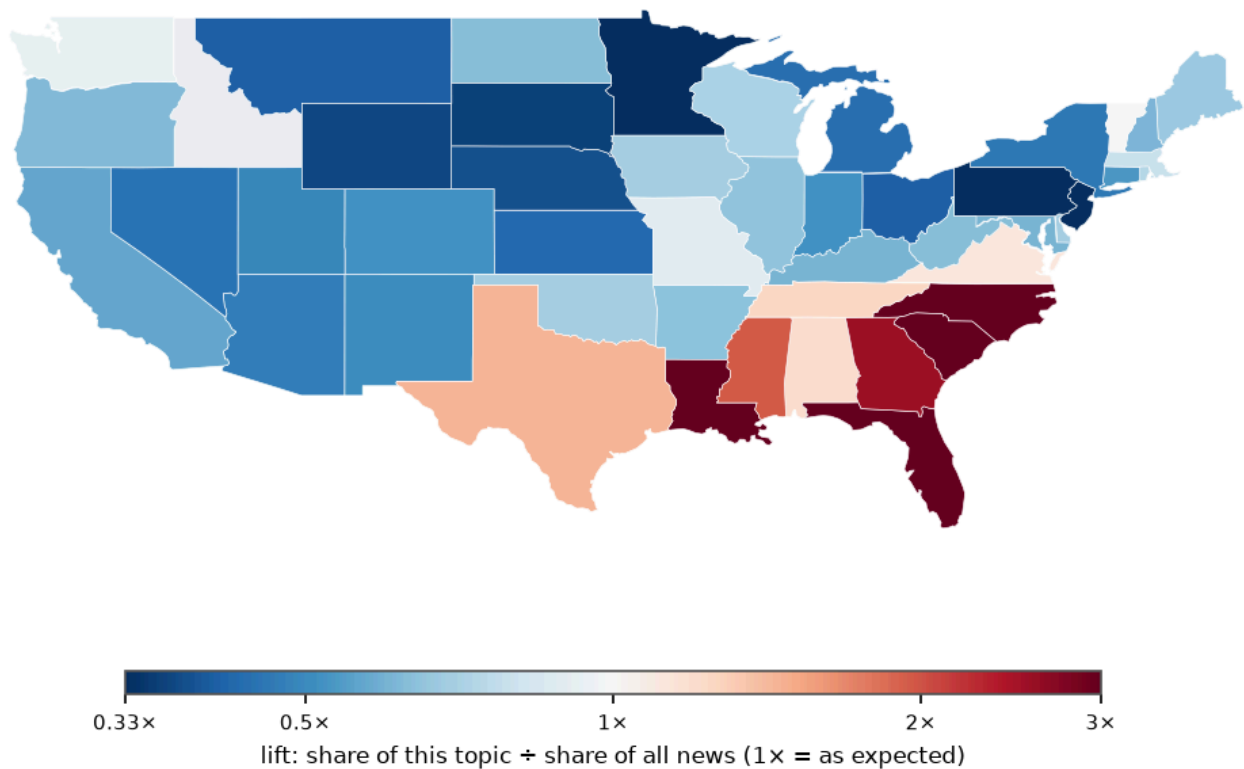


Figure 6. Lift of each US state's share of located tropical-cyclone articles against its share of all located US news, January 2023 – July 2026.

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, and among the 17 countries with the most located articles, Sri Lanka rose from 4.36 in 2023 to 246.57 in 2025 (56.55 times), Jamaica from 40.31 to 1,093 (27.11 times), Vietnam 6.11 times, Canada 2.19 times and Australia 2 times. Over the same years New Zealand fell to 0.14 of its 2023 level, after the year of Cyclone Gabrielle, and Japan (0.37), Mexico (0.47), India (0.51) and China (0.61) also fell. In the Philippines, storms took 160.72 of every 10,000 located articles in 2023 and 256.22 in 2025.

Tropical-cyclone coverage is more negative than each country's news overall in every country listed. Relative to that baseline, the gap is widest in Japan (77.5% negative against 23.3%), China (89.9% against 27.2%), Vietnam (82.3% against 25.2%) and Singapore (71.9% against 24.5%). It is narrowest where news overall is already largely negative: Russia (74.8% against 72.1%), Mayotte (84.9% against 72.4%), Myanmar (93.2% against 75%) and Pakistan (87% against 59.5%).

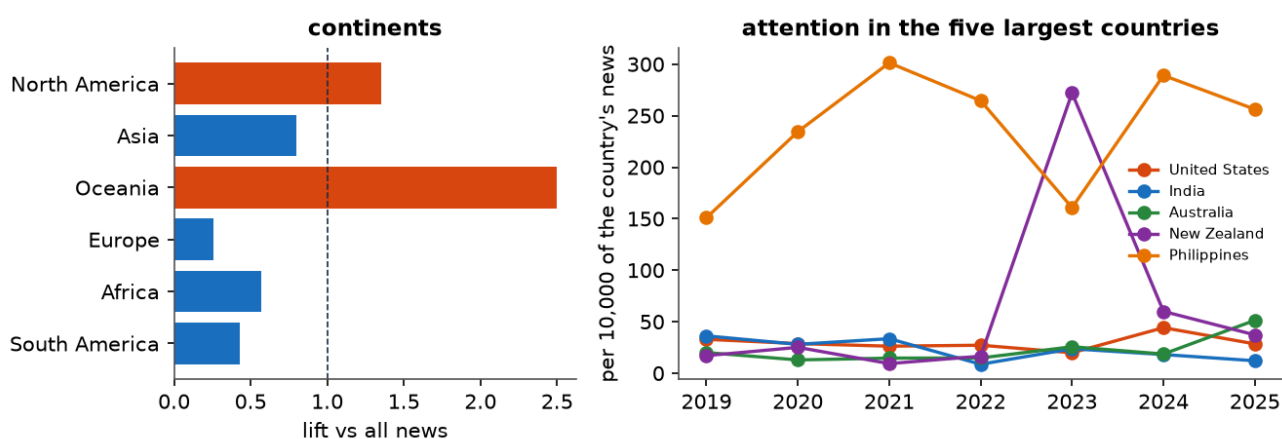


Figure 7. Left: lift by continent, January 2023 – July 2026. Right: matched articles per 10,000 of each country's located news, 2019–2025, for the five countries with the most articles.

3.4 Tone, urgency and themes

Tropical-cyclone coverage is far more negative and more urgent than news in general (Figure 8). Among articles with a tone label, 69.2% are negative, against 33.6% across the index (2.06 times). The index's machine-assigned priority rating puts 73.1% of articles at critical level (7 or higher), against 42.6% of all news (1.72 times).

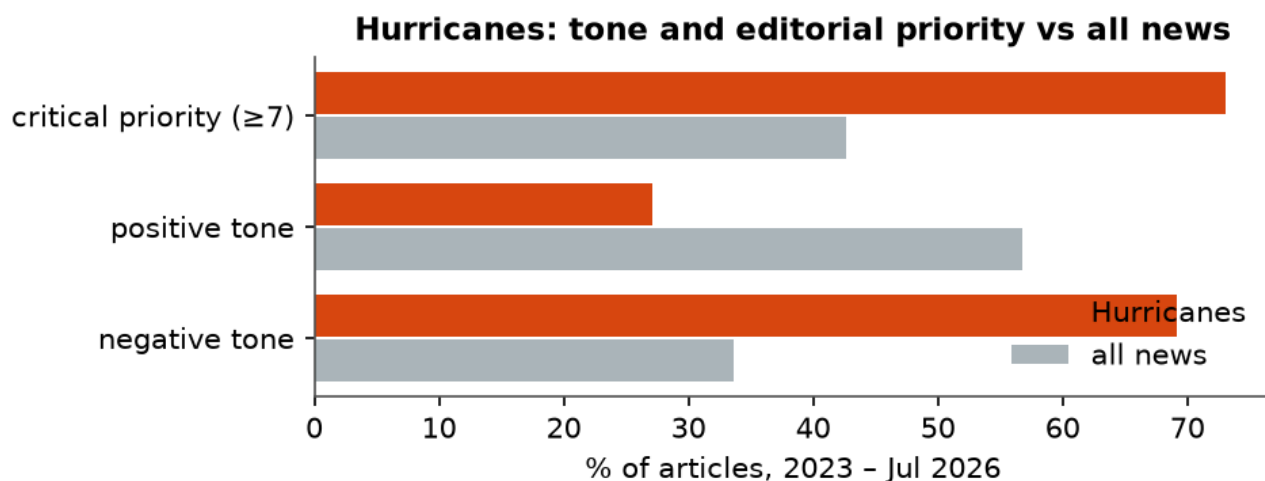


Figure 8. Tone and the share rated critical priority, tropical-cyclone articles vs all news, 2023 – Jul 2026.

Themes show what the stories are about (Table 4). Impact and preparedness is the most common theme (45.27% of themed articles). Storm tracking appears in 29.74%, 265.08 times its rate in all news, and coastal and marine forecasts in 22.05%. A large share of the coverage concerns forecasts and tracking, not only damage.

Theme	Articles	Share %	Lift
hurricane and typhoon tracking	32,944	29.74	265.08
tropical meteorology and cyclone dynamics	1,091	0.98	243.58
coastal and marine weather forecasts	24,428	22.05	218.22
hurricane/cyclone impact studies and preparedness	50,147	45.27	164.56
severe weather forecasting and risk assessment	398	0.36	143.92
extreme weather events	23,995	21.66	113.32
tornado and cyclone reports	9,105	8.22	100.88
climate-related displacement and refugee crises	10,400	9.39	66.41

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

The organisations named most often are forecasting and emergency agencies: the National Hurricane Center (13,304 articles), the Federal Emergency Management Agency (10,774), the National Oceanic and Atmospheric Administration (5,934), the National Weather Service (3,340) and the India Meteorological Department (2,161). A university seasonal-forecast team (2,416) and the American Red Cross (1,505) also rank high. Wire services and broadcasters rank high too, which reflects how storm news is sourced.

3.5 Research attention and invention

Research on tropical cyclones jumped in the mid-2000s and has held its share since. Papers with a tropical-cyclone term in the title rose from 1.63 per 10,000 papers in 2004 to 4.06 in 2006, a 2.49-fold increase. Since 2015 the share has been flat: 2.85 per 10,000 in 2015, a high of 3.87 in 2018, and 2.94 in 2025. Between 2015 and 2025, 21,904 such papers were published. The most-cited include assessments of tropical cyclones under climate change [1–3] and studies of storm damage, coastal flooding and risk [4–6].

News attention does not track research attention (Figure 9). Research share moved little from year to year, while news share swung from season to season.

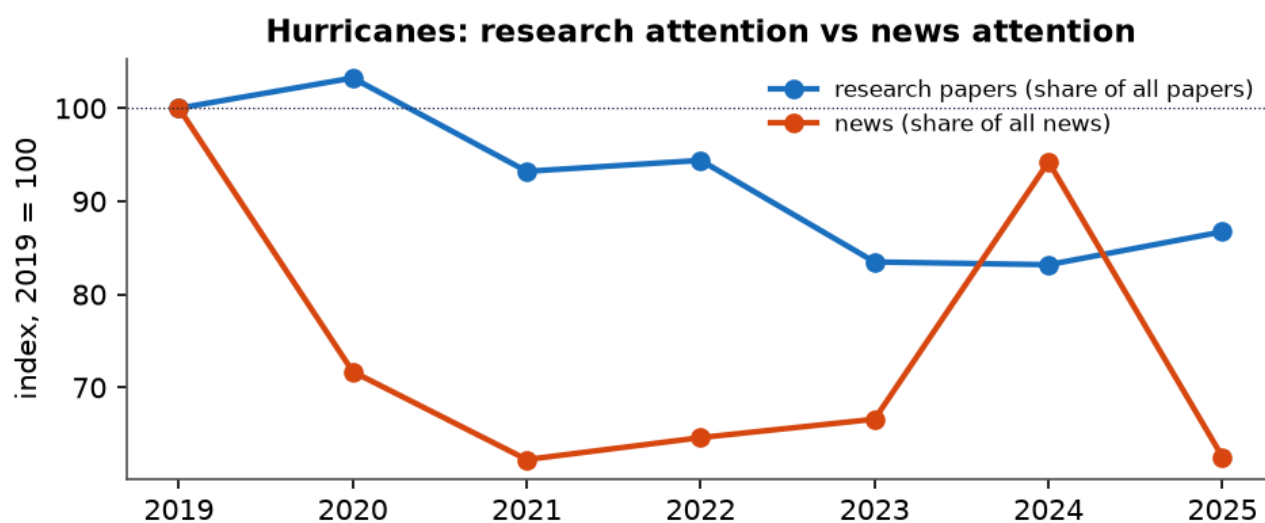


Figure 9. Research papers with a tropical-cyclone term in the title (share of all papers) and tropical-cyclone news (share of all news), each indexed to 2019 = 100.

Patenting rose faster: 94 patent families were published in 2015 and 352 in 2024 (3.74 times). China's office holds 87.8% of families from 2015 to 2024, followed by the United States (3.4%) and South Korea (2.5%) (Figure 10). The leading technology classes are data-processing methods (G06Q, 251 families; G06F, 228), followed by meteorological instruments (G01W, 145) and climate-change adaptation technologies (Y02A, 144). Wind-turbine technology (F03D, 59) forms a smaller group.

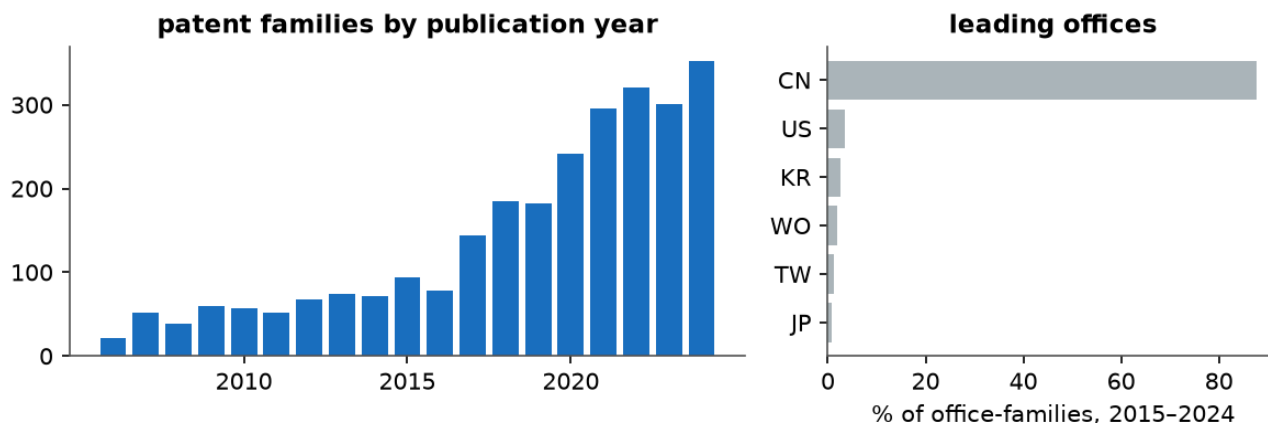


Figure 10. Patent families on hurricanes, typhoons and storm surge by publication year (left) and the leading filing offices, 2015–2024 (right).

4. Discussion

Three points matter for anyone who uses news as a record of tropical cyclones. First, coverage measures attention. The 2024 high and the 2021 low are not counts of storms worldwide. Second, raw shares mislead in both directions. The United States leads in raw terms and is also over-represented, and its Atlantic and Gulf coasts sit in the index's densest news market. India, which faces frequent and deadly Bay of Bengal cyclones, is under-represented nationally; one plausible reason is that its located news is dominated by inland states; at the state level, Odisha, Andhra Pradesh, Tamil Nadu and Puducherry are strongly over-represented. Small island places such as Mayotte, Vanuatu and Jamaica show the highest lifts of all. Location tags need care: before place tags derived from ordinary words were treated as unlocated, the word "hurricane" made Utah look like a storm state. Third, a keyword search for storm news returns sports, aircraft and cyber-security stories; nearly one in ten raw matches was not about a storm.

Research, invention and news run on different clocks. Research share rose sharply once and then held. Patent filings grow fastest and are concentrated in one office, led by data-processing classes. News follows the seasons and the big landfalls. The dataset lets researchers link the three, for example to test whether storms 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, and the 2026 Atlantic season had barely begun by July, so 2026 is partial and is excluded from year comparisons.

- **Matching.** Matching uses the article opening. Articles that mention storms only later are missed, and 10% of matches are not about storms. The plural forms *cyclones* and *typhoons* are not matched, which misses some seasonal and climate stories.
- **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, such as "hurricane" read as the town of Hurricane, Utah, were treated as unlocated (15.3% of city-tagged articles), so some genuinely located articles may be lost and located counts are smaller. Some articles tagged to the country Georgia concern the US state.
- **Outlet mix.** The index over-represents English-language and North American outlets. This shapes both seasonality, which follows the Atlantic season, and geography.
- **Research and patent counts.** These match titles only. Office shares reflect filing practice; filings in China are numerous and narrow.

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 73,723 of 295,954 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 "hurricane" --since 2019-01-01 --until 2026-07-31 --granularity monthly`.

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