Episomer hands-on exercise

Introduction

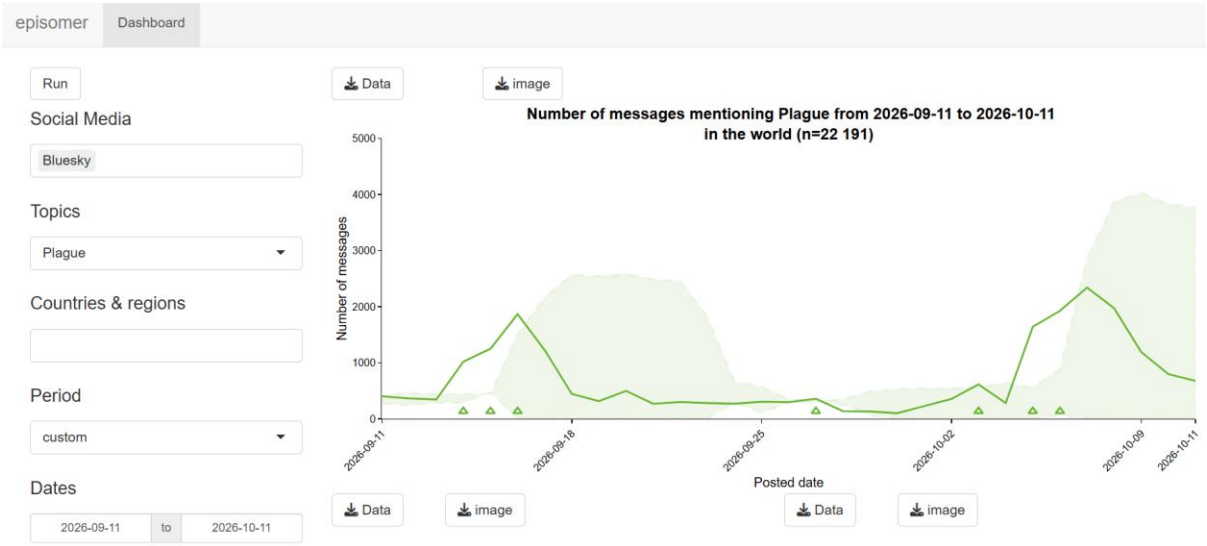
Based on the presentation of episomer functionalities, you will explore a real scenario in which you will explore the parameters and options in the dashboard and their implications.

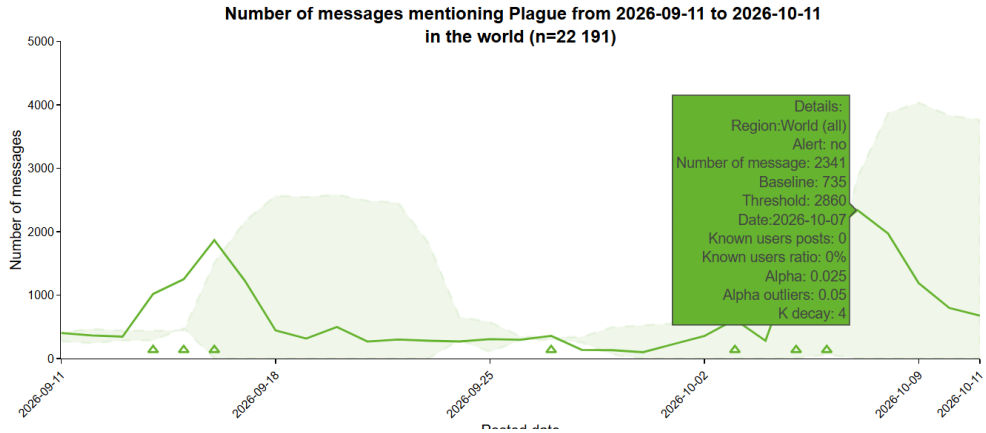
Exercise

1) Worldwide trendline and geographical distribution

The following parameters have been selected:

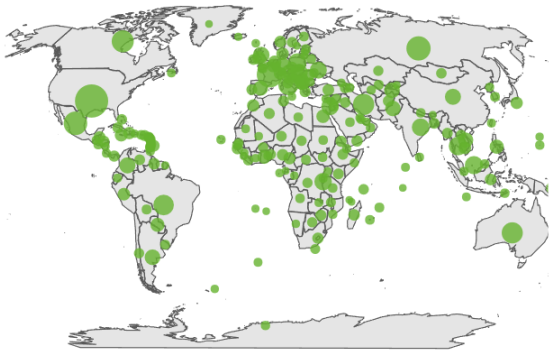
- Social media: Bluesky
- Topics: Plague
- Countries and regions: All
- Period: 11 September to 11 October 2026





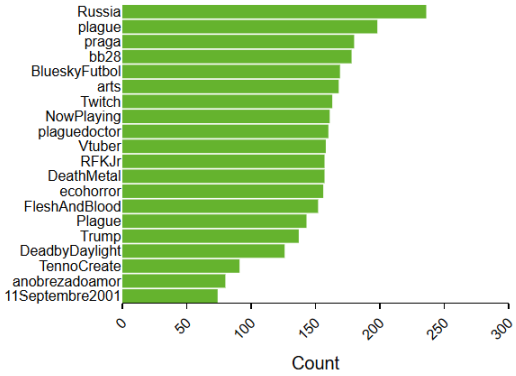
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Geographical distribution of messages mentioning Plague from 2026-09-11 to 2026-10-11

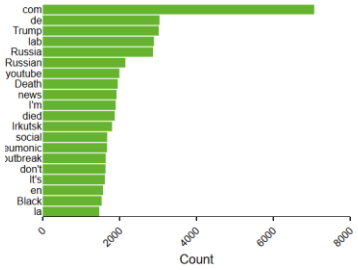


. Projection: +proj=robin

Top tags of messages mentioning Plague from 2026-09-11 to 2026-10-11



Top words of messages mentioning Plague from 2026-09-11 to 2026-10-11



Top URLS of messages mentioning Plague from 2026-09-11 to 2026-10-11

Show 10 entries Search:

	Url	Frequency	topic
1	https://www.theguardian.com/world/2026/oct/05/russia-lab-worker-possibly-dies-of-plague-siberia-quarantine-measures-irkutsk	341	Plague
2	https://www.dw.com/en/naked-trump-statue-goes-on-display-in-strasbourg/a-79568640	256	Plague
3	https://link.springer.com/article/10.1007/s11538-026-01762-9	233	Plague
4	https://www.huffpost.com/entry/trump-claims-assassination-attempt-democrat-plot_n_6aa97484e4b0477c43bf85cd	170	Plague
5	https://elpais.com/mexico/2026-09-19/el-camino-a-la-carcel-del-trompas-el-asesino-confeso-de-claudia-tacoronte.html?ssm=bsky_CC	169	Plague
6	https://rtbrasil.com/noticias/50615-chefe-exercito-alemao-cita-filme/	169	Plague
7	https://static.klipy.com/ii/4e7bea9f7a3371424e6c16ebc93252fe/38/90/6wiuV5lVwh1OlNjeUBIM.gif?hh=498&ww=281&mp4=7uaPWEs0JByN&webm=EUXDmycAWjXcd	169	Plague
8	https://www.eldiario.es/vertele/noticias/tiempo-justo-ficha-macarena-olona-marcos-quinto-aldo-comas-nueva-etapa-centrada-politica-corazon_1_13519906.html	169	Plague
9	https://www.bbc.com/news/articles/cqg7k7v499jjo	167	Plague
10	https://notasdeazblogspot.com/	165	Plague

What is the day with the highest number of posts? Was there a signal and why?

Can you clearly see what are the countries with the highest number of posts from the map?

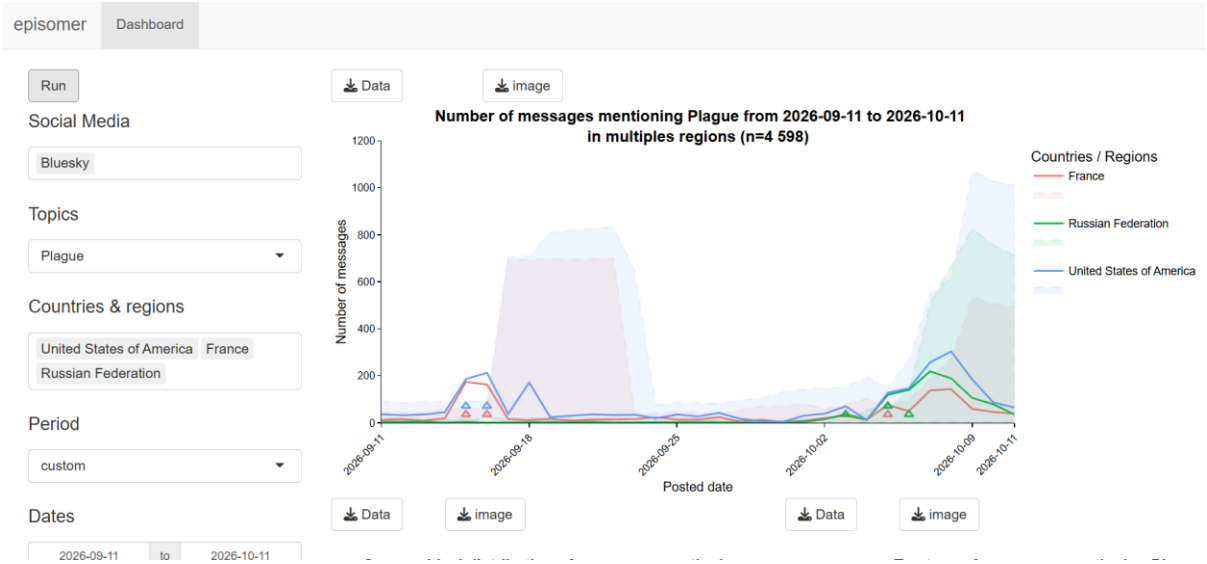
When downloading the data behind the map, these are the countries sorted by highest number of posts. Which are the countries with the highest number of posts? Do they refer to posts posted in these countries or to posts mentioning these countries?

country_code	count	topic	Country	Long	Lat	MinLat	MaxLat	MinLong	MaxLong
US	2389	Plague	United States of America	-96.8277	33.87815	18.7763	48.98	-126.77	-66.8854
FR	1212	Plague	France	2.0517	46.22475	41.3253	51.1242	-5.5591	9.6625
RU	1005	Plague	Russian Federation	99.1	58.9	41.2	76.6	19.4	178.8
MX	922	Plague	Mexico	-102.621	23.55408	14.3895	32.71865	-118.652	-86.5887
CA	757	Plague	Canada	-96.65	62.5	41.7	83.3	-141	-52.3
IR	678	Plague	Iran	53.68302	32.29438	24.8067	39.78206	44.03269	63.33334
AU	659	Plague	Australia	133.4542	-27.1514	-43.6346	-10.6682	113.339	153.5695
BR	606	Plague	Brazil	-54.3586	-14.2619	-33.7684	5.244486	-73.9872	-34.73
IT	572	Plague	Italy	12.71216	41.29085	35.4897	47.092	6.62672	18.7976

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2) Multi-country trendline

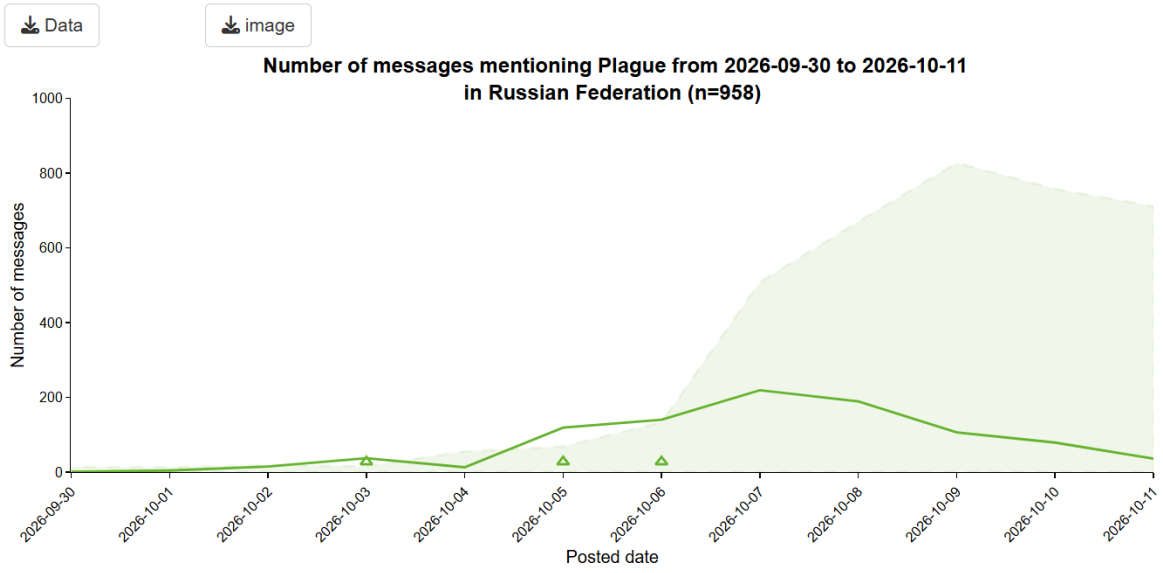
To have a better overview of the signals, the top three countries have been selected in the dashboard for the same period.



How do you know which is the trendline and signal threshold for each country?

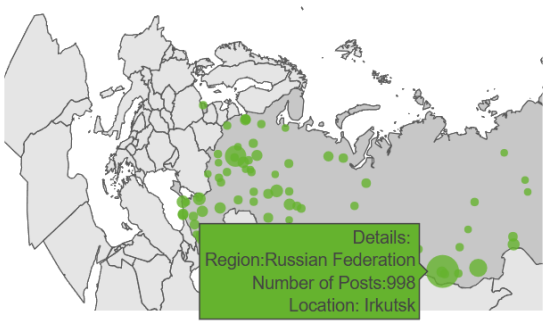
3) Country trendline, geographical distribution and other figures

a. Trendline and geographical distribution

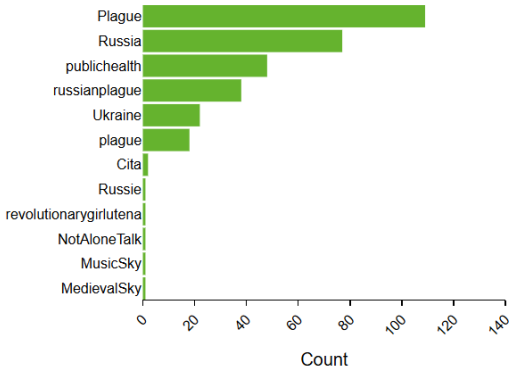


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Geographical distribution of messages mentioning Plague from 2026-09-11 to 2026-10-11



Top tags of messages mentioning Plague from 2026-09-11 to 2026-10-11



What is the difference in the map when only one country is selected? Which region has the highest number of posts?

b. Assessing signals

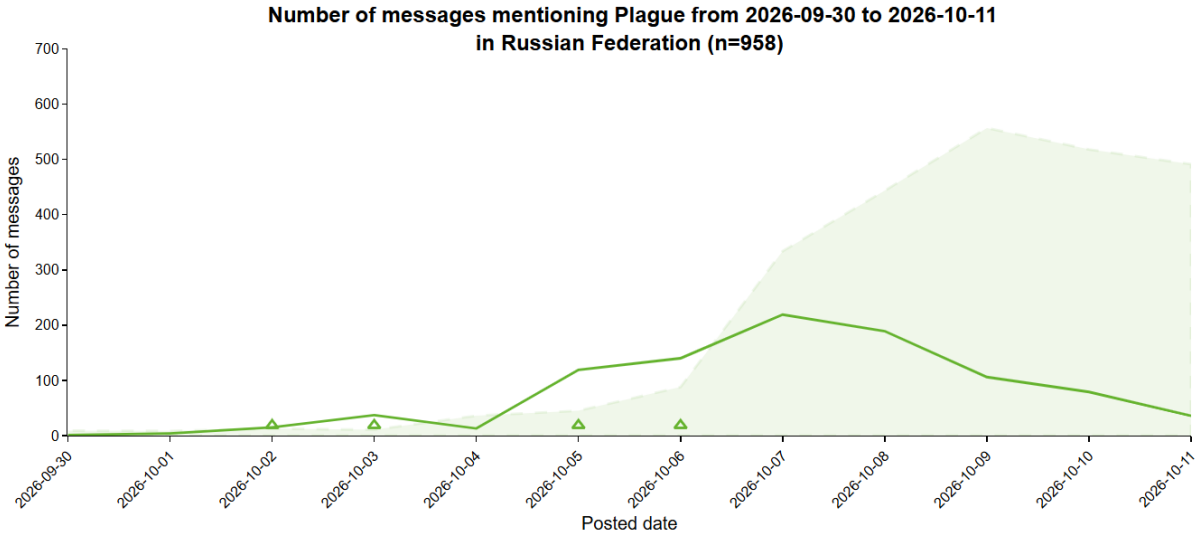
Date	Hour	Topic	Region	Category	Tops	Posts	% from important user	Threshold
	⊗		A	All	All		All	All
2026-10-03	10	plague	Russian Federation		• **Top Words**: outbreak (166), Siberian (163), lab (22), Nearly (14), Siberia (13), From (11), People (11), worker (11), Irkutsk (10), death (10) • **Top tags**: plague (4), pandemic (3) • **Top Urls**: https://www.themoscowtimes.com/2026/10/02/nearly-200-people-under-observation-after-irkutsk-lab-worker-dies-from-plague-a93857 (35)	32	0	17.67446
2026-10-03	12	plague	Russian Federation		• **Top Words**: particularly (172), lab (25), themoscowtimes (20), died (16), Nearly (14), pneumonic (14), Irkutsk (13), death (12), worker (12), From (11) • **Top tags**: plague (4), pandemic (3) • **Top Urls**: https://www.themoscowtimes.com/2026/10/02/nearly-200-people-under-observation-after-irkutsk-lab-worker-dies-from-plague-a93857 (38)	54	0	21.15501

These are the signals that you have received on 3 October at 10 and 12 h (UTC). With this information, which of the following action will you take and why?

- Ignore the signals
- Investigate further the signals before confirming the alerts
- Consider the signals as confirmed alerts

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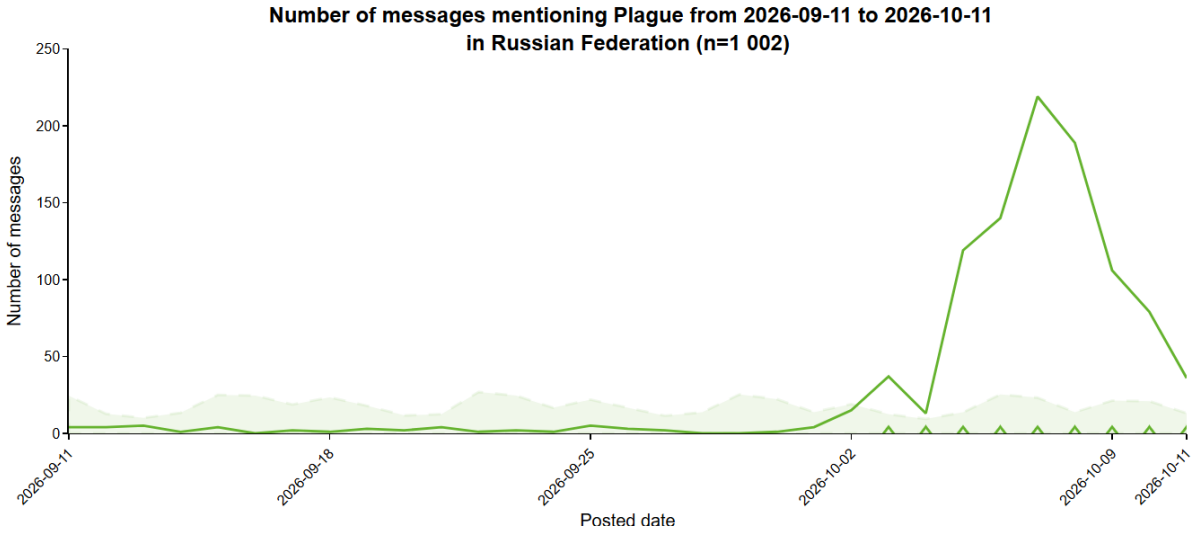
c. Signal false positive rate



This trendline has the signal false positive rate set up to 0.3. What is the difference with the trendline in exercise 3a with a signal false positive rate set up to 0.025 (default value)? [Tip: check the alerts]

What are the implications of having a very high signal false positive rate (higher sensitivity, lower specificity? [Tip: consider the differences for small vs big teams of analysts]

d. Same weekday baseline



When comparing this trendline with the trendline from exercise 3a, what is the difference regarding signals detected? Why do you think having same weekday baseline has triggered daily signals?

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