Competitive Fortnite Analytics

Project summary: what was done and what it found

Rob Kirby

November 8, 2026

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1. The project in one page

This project asks four questions about competitive Fortnite and answers them with data collected and analysed entirely in R:

1. How have prize pools moved alongside player engagement since 2018?
2. Do big competitive events produce measurable bumps in attention?
3. As prize money changed, did the scene get deeper or more top-heavy?
4. Does Epic's regional split of FNCS prize money match each region's player base, and in particular, is Europe underpaid relative to NA Central?

> **i** Fortnite basics, for readers who don't play
>
> Fortnite is a free online game by Epic Games. In its main mode up to 100 players fight until one player or team is left. The game changes every couple of months with a new **season**, which brings new content and is the biggest driver of public interest. Epic also runs paid tournaments. The main one is the **Fortnite Champion Series (FNCS)**, where players compete within one of seven world **regions** (Europe, NA Central, NA West, Brazil, Asia, Oceania, Middle East), and each region has its own prize pool. **Twitch** is the main site for watching games live; **Google Trends** measures how popular a search topic is.

The finished dataset covers **$209.1M of prize money**, **2,674 tournaments**, **11,443 players**, **26 FNCS seasons**, 113 months of Twitch viewership and weekly Google search interest from 2017 to 2026.

1.1. What it found

- **Prize money and attention follow different paths.** Twitch viewers and Google searches have fallen steadily since 2018. Prize money spiked with the 2019 World Cup, then stayed near its 2018 level until 2024. Month to month the two are essentially unrelated (correlation −0.05).
- **Tournaments don't move mainstream attention; new seasons do.** Search interest rises only 3% in an FNCS finals week (median) versus 28% in a new-season week. With proper controls, the tournament effect is not statistically different from zero.

- **The scene lost money faster than people, and got more top-heavy.** From 2019 to 2025 prize money fell 84%, but the number of players earning anything fell only 32%. The top 100 players' share rose from 44% to 65%, and the median earner's yearly total fell from $2,500 to $600.
- **Europe is not underpaid relative to NA Central.** Europe does appear to have the larger player base (about 1.26x NAC's), but its prize pool is even larger (about 1.44x). In the current format EU gets 1.14x its share of players and NAC 0.99x, so both are close to fair, with EU slightly ahead.
- **The real imbalances are in smaller regions.** Asia gets about 0.37x its share, while Oceania (2.15x) and NA West (1.62x) get much more than theirs. Asia, Oceania and the Middle East received identical prize pools in every 2025-2026 season despite very different sizes, which points to a fixed amount per small region.

All of these are **relationships, not proof of cause and effect.** Epic sets prize money partly because of popularity, so the influence can run both ways.

2. How the work was done

The project ran in five phases, with a review stop after each.

2.1. Phase 1: Checking every source first

Before writing any collection code, each candidate source was checked for what it contains, its date range, and whether automated collection is allowed (its robots.txt file and terms of use).

Source	Decision	Why
Esports Earnings	Scrape politely	robots.txt has no restrictions; terms allow personal and commercial use. Its API needed a key that wasn't available, so the public pages were used instead
Liquipedia	Official API only	Its terms allow the MediaWiki API (max 1 request per 2 s) but forbid scraping pages
Google Trends	`gtrendsR` package	Standard route; rate-limited, so queries were spaced a minute apart
TwitchTracker	Copied by hand	Its data endpoint is disallowed in robots.txt
SullyGnome	Not used	Its FAQ asks people not to scrape it
Fortnite Tracker, Fortnite.gg	Not used	Both block automated access with a security check; it was not bypassed
World Bank, FRED, Fortnite Wiki	APIs	Official, free, no key needed

2.2. Phase 2: Collecting the data

Each source has its own R script. Every script:

- identifies itself to websites with a project name and contact email,
- waits at least 2 seconds (usually 3) between requests,
- saves every downloaded page to `data/raw/` and never downloads it again, and
- ends with checks that stop the script if the data look wrong.

In total 1,077 web pages and API responses were collected once and cached.

2.3. Phase 3: Cleaning, merging and validating

One script (`10_clean_merge.R`) turns the raw data into six tidy datasets used by the analysis. The checks along the way caught several real problems in the sources:

- **A missing $2 million event.** Esports Earnings' event list leaves out FNCS 2025 Major 3. It was found because the 2025 tournament total came up $2.0M short of the site's own yearly total, and was then added from another page on the site.
- **Multi-game events.** Events such as DreamHack list every game's tournaments and players together. These were detected and read tournament by tournament so only Fortnite money is counted.
- **Events spanning two years** were also read tournament by tournament so each dollar lands in the right year.
- **Pages broken on the source's server.** Nine small tournaments (together $14,800, under 0.01% of all money) return an error every time; they are logged and skipped.

- **Region changes.** NA East was renamed NA Central; North America was one merged region from 2023 Major 2 to 2024, then split again. These are mapped consistently.
- **China in the search data.** Google is blocked in China, so its search score reflects only VPN users. Left in, it would have made China almost half of "Asia". It was excluded from the search-based measure.
- **Incomplete Twitch months.** October 2026 (and June-September 2017) show hours watched that don't match average viewers, so those months are flagged and left out.

After these fixes, the tournament count matches the site's own count exactly (2,674), player earnings reconcile with every yearly total to within 0.6%, and the number of earning players per year matches the site's count almost exactly. About 81% of all prize money can be assigned to named players; the rest is team prize money the source has no rosters for.

2.4. Phase 4: Analysis

One script per research question, each producing figures and tables:

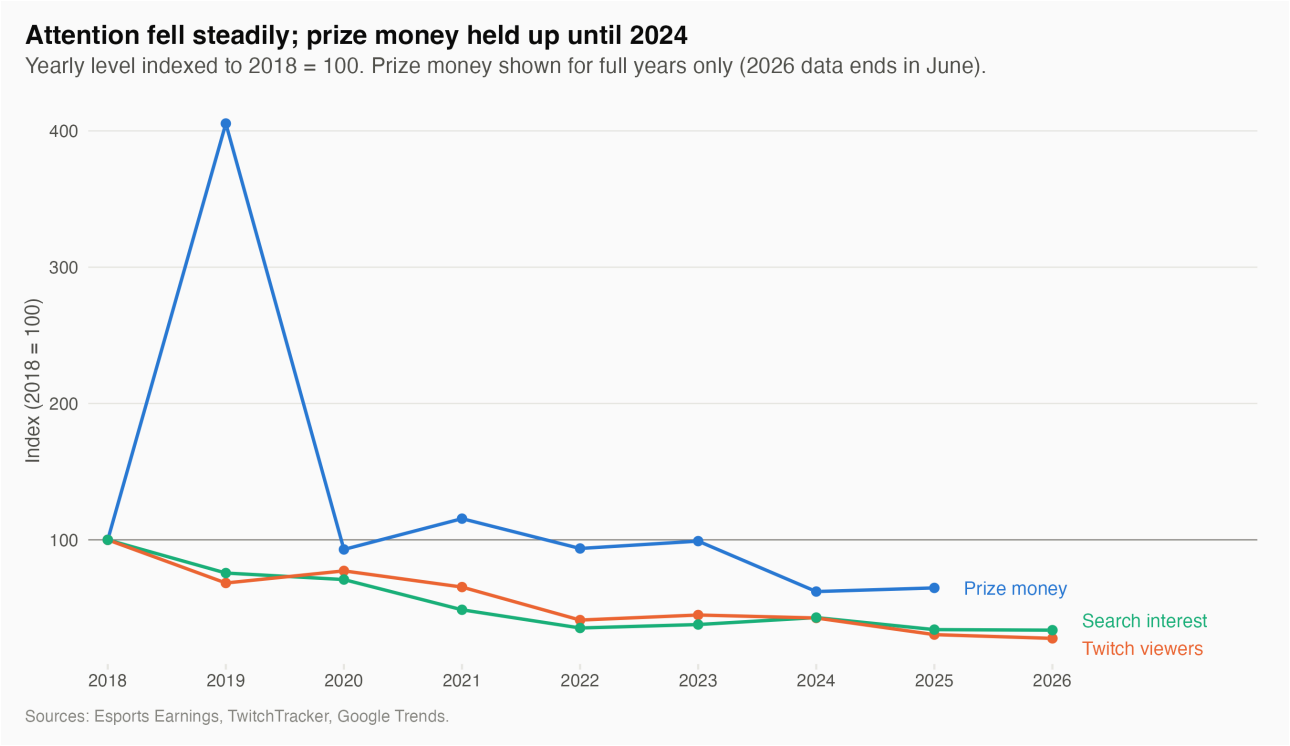
- **Time series:** monthly and yearly comparisons, plus correlations in both levels and month-to-month changes. Changes matter because two series that both decline will look related even if they are not.
- **Event study:** weekly Google search interest around every FNCS final and world final, compared with surrounding weeks and in a regression that controls for season launches, the season itself, and how far into the season the week falls.
- **Ecosystem health:** earning players, top-10 and top-100 shares, the Gini coefficient (a 0-to-1 inequality score), Lorenz curves, and mean vs. median tournament prize.
- **Regional fairness:** each region's share of FNCS prize money divided by its share of players (the "allocation ratio"; 1.0 = fair), using three different player-base measures to see whether the answer changes.

2.5. Phase 5: The report

The Quarto report (`report/fortnite-competitive.html`) presents everything with the code folded under each result. The code shown in the report is read directly from the analysis scripts, so the report and the pipeline can't drift apart, and every number in the text is calculated from the data rather than typed in.

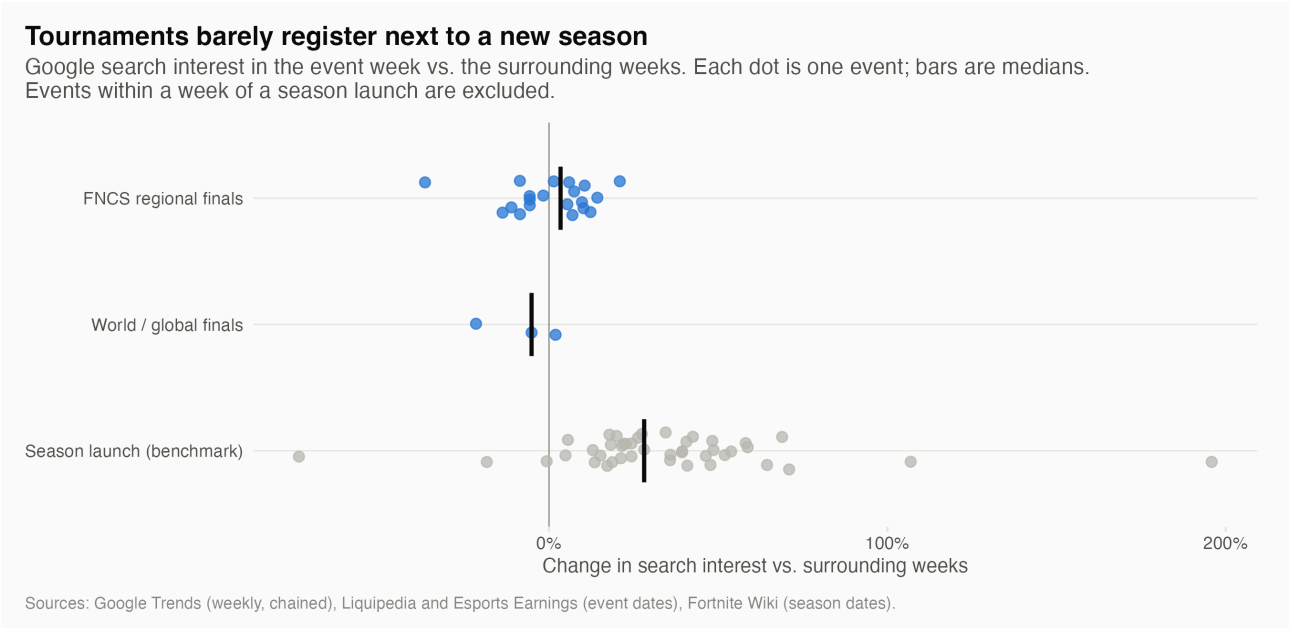
3. Results in detail

3.1. Prize money vs. engagement



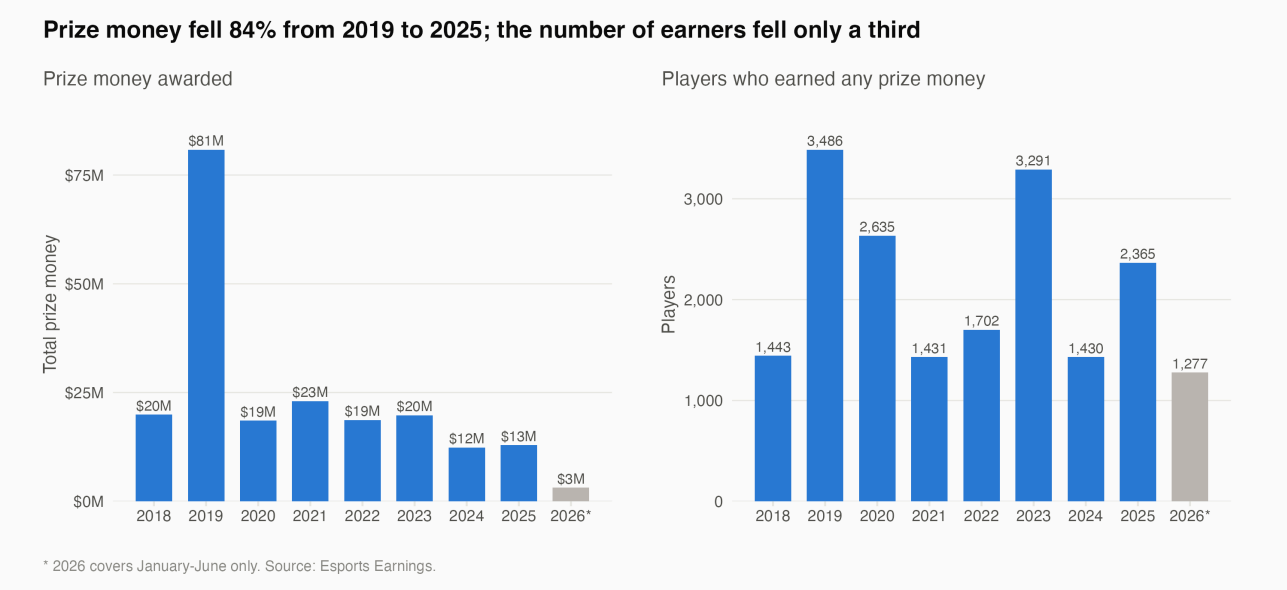
By 2025, Twitch viewership was at 30% and Google search interest at 34% of their 2018 levels. Prize money behaved differently: a huge 2019 (the World Cup finals alone paid $33.6M), then roughly flat until 2024, then lower. In month-to-month changes there is no meaningful correlation between prize money and viewership, and no sign that either one moves first. The practical reading: Epic's prize spending has not tracked how much attention the game gets, at least not on a monthly basis.

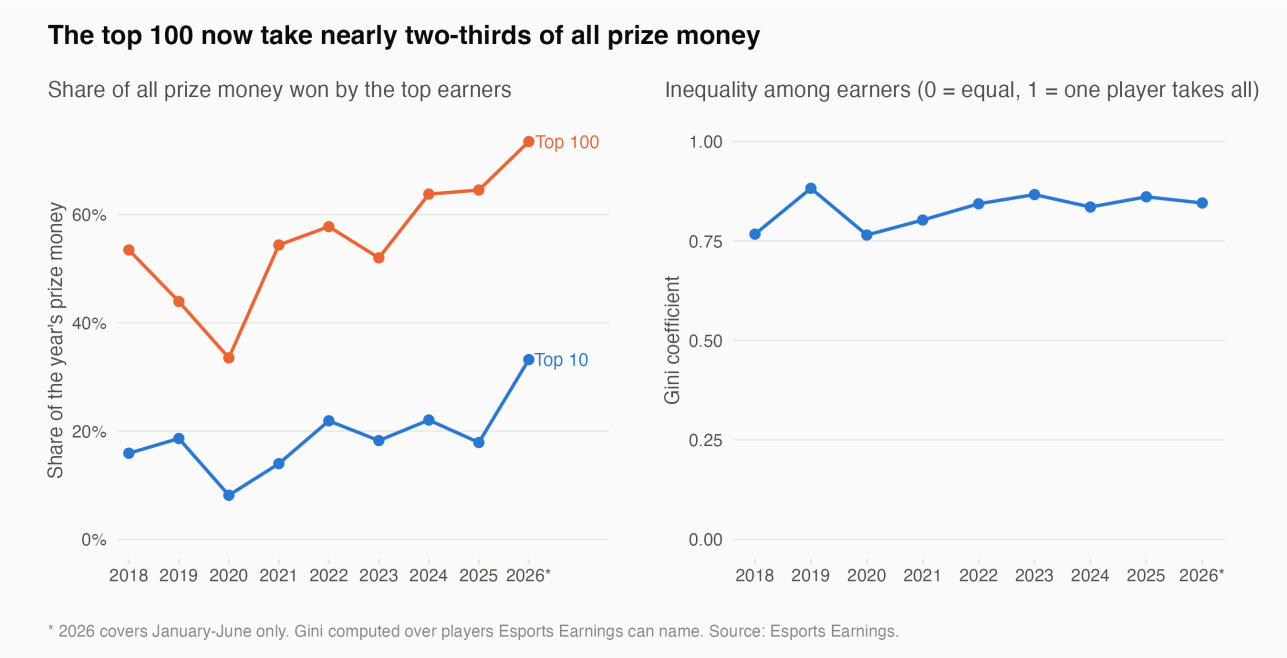
3.2. Do events move attention?



Each dot is one event. FNCS finals and even world finals barely register in Google search interest, while new season launches produce clear jumps (median 28%). The regression confirms it: the event-week effect is −1.3% and not significant, while a launch week adds about 38%. Competitive Fortnite appears to be watched by an existing audience rather than pulling in new mainstream attention.

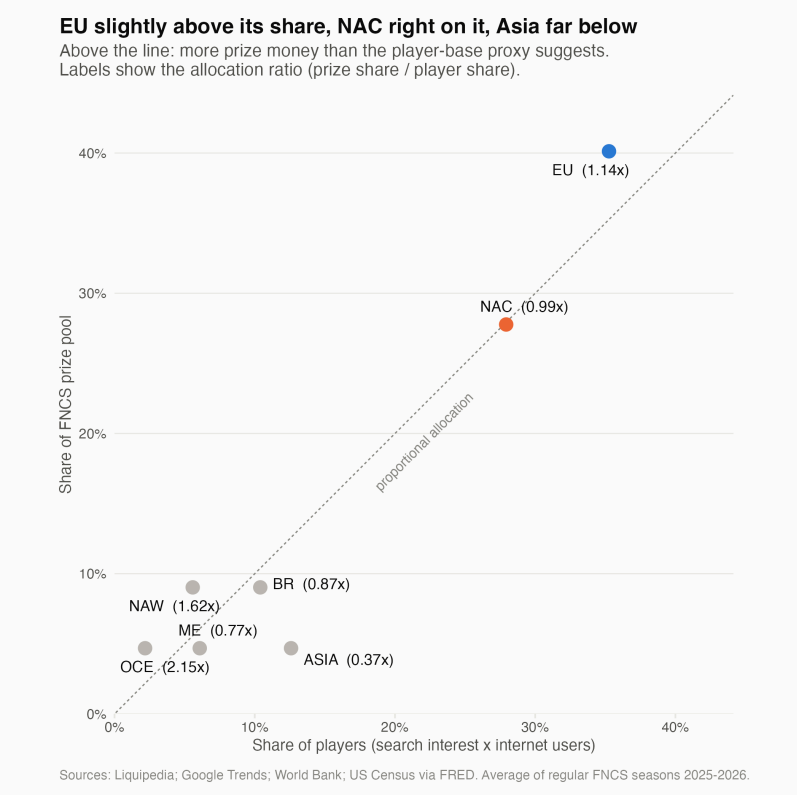
3.3. Ecosystem health



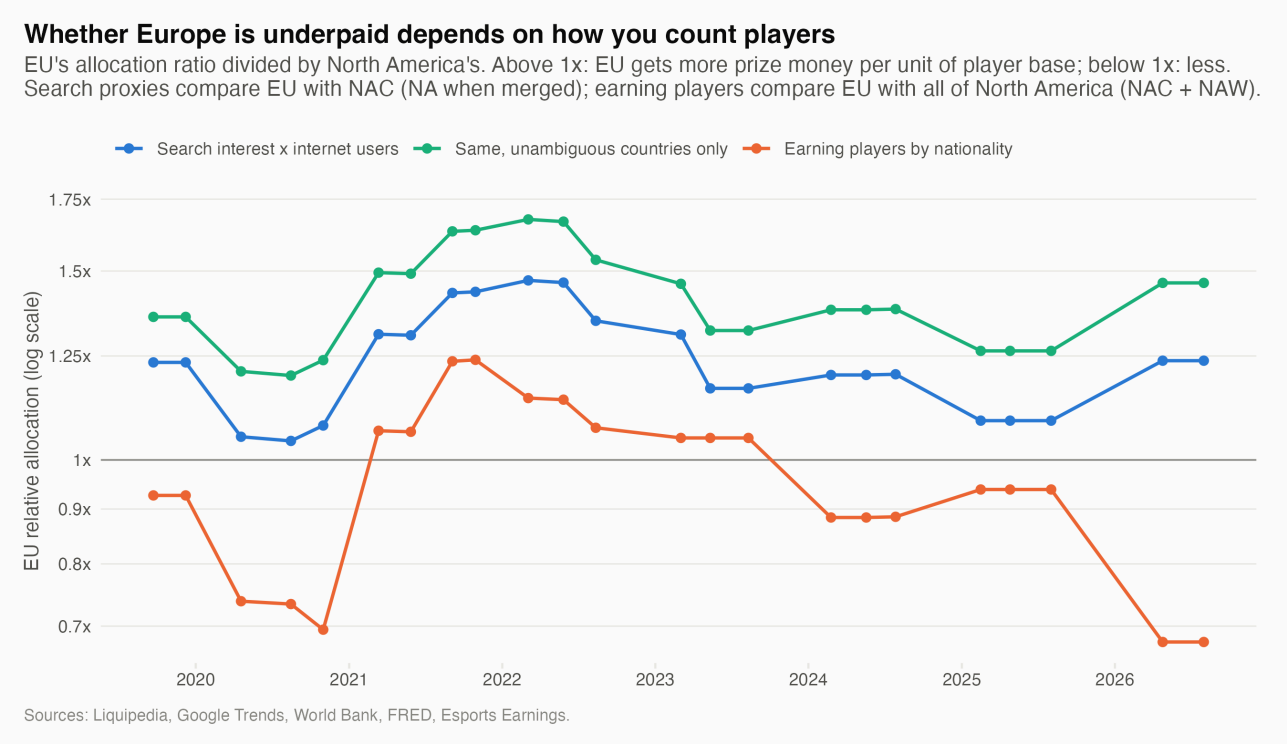


The number of earners depends heavily on format. 2023 paid about the same total as 2018 but to more than twice as many players, because of many small cash cups. Over time, though, money has concentrated: the top 100 took 65% of 2025's prize money, and the median earner takes home much less. Inequality is very high in every year (Gini coefficient between 0.77 and 0.88, on a scale where 0 is perfectly equal and 1 is one player taking everything).

3.4. Regional fairness



Points on the dotted line receive exactly their share of players. EU sits slightly above, NAC almost on it. Asia is far below; Oceania and NA West are well above.



Robustness. The EU-vs-North-America comparison was repeated with three different player measures. Both search-based measures put EU at or above North America, meaning EU gets more prize money per player. Only the count of earning players puts EU slightly below. That measure compares EU with all of North America and is partly circular, since bigger prize pools create more earners. Overall, the evidence does not support the claim that Europe is underpaid relative to NA Central.

4. Limitations

- **No direct player counts.** Epic doesn't publish them and the sites that estimate them block automated access, so the regional results rely on proxies.
- **Search is not playing.** The main proxy assumes people in different countries search Google about equally often, and that searching for Fortnite reflects playing it.
- **Cause and effect.** Nothing here proves prize money causes engagement or the reverse.
- **Coverage.** Prize data end in June 2026, and about a fifth of prize money can't be tied to named players.
- **Regional finals only.** Epic's regional allocation also includes qualifiers and cash cups not counted in the finals pools.

5. Files and how to update

What	Where
Portfolio report (open in a browser)	`report/fortnite-competitive.html`
This summary	`report/project-summary.pdf`
All code, in run order	`R/00_setup.R` to `R/23_analysis_regional.R`
Raw cached downloads + manual-download log	`data/raw/` (see its README)
Clean datasets	`data/processed/`
Figures (PNG, 300 dpi) and tables (CSV)	`output/figures/`, `output/tables/`

To refresh with newer data: set `refresh <- TRUE` at the top of a collection script (or delete its cached files), paste a new TwitchTracker table, then run the scripts in order and re-render the report with `quarto render report/fortnite-competitive.qmd`.