☑ Fact-Checked Science

STATISTICAL TEST · MAGNETIC EXCURSIONS AND CYCLES

Is there a 6,000/12,000-year cycle?

Popular “disaster cycle” accounts say Earth’s magnetic field has an excursion about every 6,000 years, within a fuller 12,000-year cycle [V]. We tested that against the twelve dated excursions of the last 215,000 years, then searched every cycle length from 3,000 to 60,000 years for one that fits better. A 6,000-year cycle counted from today doesn’t fit the dates, no other length stands out from chance, and the one even stretch is short and built mostly on disputed events.

By Fact-Checked Science · Published October 13, 2026

This page is our own statistical test. OUR ANALYSIS marks our calculations and reasoning, and the verdicts are our assessment; the excursion ages and everything else come from the numbered sources. Ages count back from AD 1950, as the sources do.

A 6,000-year cycle doesn’t fit, and no other stands out

OUR ASSESSMENT

3.5×

how much farther the six best-dated excursions sit from the marks of a 6,000-year cycle counted from today than a real cycle would leave them: 1,640 years on average, against about 470, and never this far in 200,000 simulations

53%

of random catalogues fit a 12,000-year cycle at least as tightly as the twelve excursions, wherever its marks fall. In our simulations, a real 12,000-year cycle stood out every time

0.1%

chance, roughly, that six random dates are spaced as evenly as the six youngest events, about 6,800 years apart: the one real oddity, though it was picked out after looking and four of the six are disputed

THE CLAIMS ABOUT A MAGNETIC CYCLE

FALSE

“This is happening approximately every 6,000 years.”

The Disaster Cycle video, 28:45 (our check) [V]

A real 6,000-year cycle counted from today would leave the six best-dated excursions about 470 years from its marks, allowing for their dating errors. They sit 1,640 years away on average, which no simulated cycle produced in 200,000 tries, and any length from 5,720 to 6,100 years, the video’s own range, still leaves them at least 1,550 years away. Tested at 6,000 years with the marks anywhere, the twelve excursions fit no better than random dates. See section 2.

UNSUPPORTED

“I will be making a case for a fuller harmonic up to a 12,000-year cycle in terms of Earth’s magnetism, but at its base there is at least a 6,000-year cycle.”

The Disaster Cycle video, 35:56 [V]

The video promises a case but doesn’t say what the 12,000-year cycle would look like. If excursions recurred every 12,000 years, the record rules it out: they bunch at one point of that cycle no more than random dates do, though a real cycle of that length would have stood out. If every second excursion of a 6,000-year cycle were the stronger one, the base cycle would have to exist first, and only one strong excursion, Laschamp, is dated well enough to place. We found nothing else that backs it. See section 3.

OVERSTATED

“Whether it’s 6,000 or 6,100 versus 5,721 years is also not important because whatever that actual number is, it’s very repeatable in the data.”

The Disaster Cycle video, 29:34 [V]

One stretch is regular: the six events of the last 45,000 years are 5,050 to 8,000 years apart, more evenly spaced than random dates would be about 999 times in 1,000. But four of the six are disputed, possibly local, or seen in a single record [1 p. 5][2][3 §6][4]; across all twelve excursions the gaps run from 5,050 to 74,000 years, as irregular as random dates; and the older excursions are dated too loosely to show whether the pattern runs back in time. Our check of the video rates his next claim, that we are now “that exact distance from the last one,” False. See section 5.

1 · THE CLAIM AND THE RECORD

Twelve dated excursions, one proposed cycle

The claim is a cycle counted back from today: an excursion about every 6,000 years, the last one about 6,000 years ago, and on top of it “a fuller harmonic up to a 12,000-year cycle” [V]. We tested it against the excursions of the last 215,000 years, with the ages from our evidence review of the record.

STEP 1

Place each event on the cycle

Count back from today in steps of 6,000 years and measure how far each excursion sits from the nearest mark.

STEP 2

Compare with chance and with a real cycle

Do the same for 100,000 catalogues of random dates, and for simulated catalogues in which a real cycle put every event on a mark and only its dating error moved it.

STEP 3

Try every cycle length

Score how tightly the events bunch at one point of every cycle from 3,000 to 60,000 years, judge each length against random catalogues at that length, and ask how often random catalogues find a length that stands out as much.

STEP 4

Test the best pattern

Examine the one regular-looking stretch, the six youngest events, and run the cycle that fits them back through the older record.

A cycle counted from today

The video counts back from now: the last excursion “to officially be recognized is the one 6,000 years ago,” and “we’re perfectly due in time” [V]. So the marks sit at 6,000, 12,000, 18,000 years ago and so on. The video also says the exact length isn’t important, which section 4 allows for.

Which excursions

The twelve on our evidence review of the last 215,000 years: the eleven of the original infographic, with Post-Blake and Skálamælifell drawn as separate phases [13]. Lake Mungo is left out because its calendar age is uncertain by about 5,000 years once its radiocarbon ages are calibrated, too loose to place on a 6,000-year cycle, and because it overlaps Mono Lake, so it may not be a separate event [21 pp. 246–247][22].

OUR ANALYSIS

Six events carry most of the weight

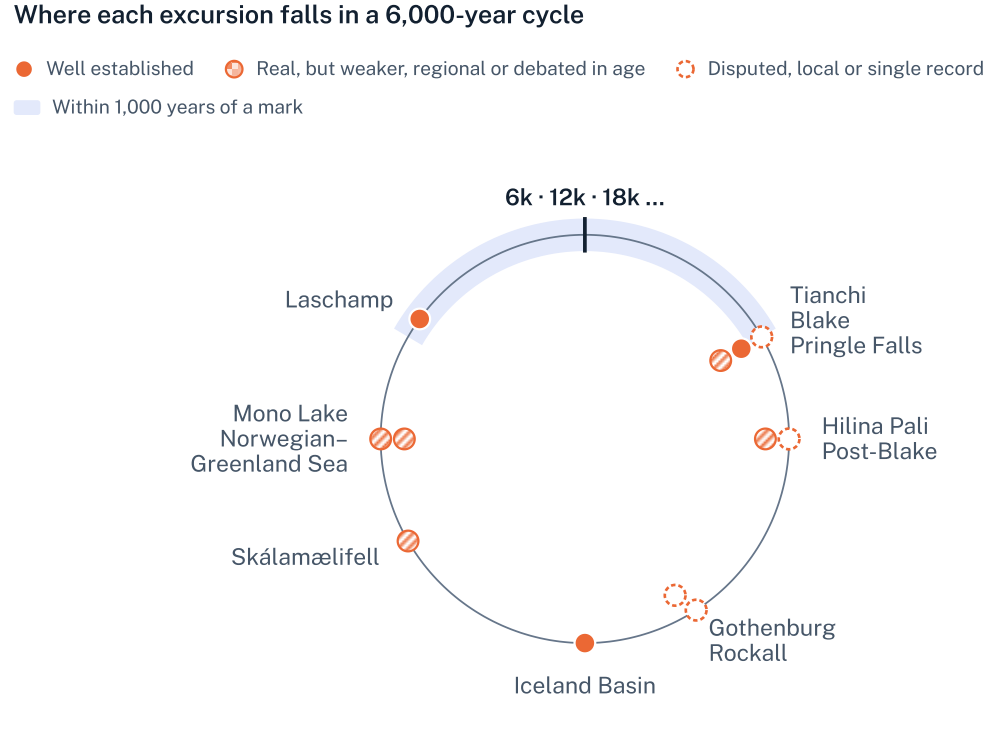
Only excursions dated to within about 1,000 years can be placed on a 6,000-year cycle; an age uncertain by ±3,000 years could sit anywhere on it. The six youngest events are also the six best dated, so they decide most of what follows, and four of them are disputed.

2 · A 6,000-YEAR CYCLE

A 6,000-year cycle counted from today doesn’t fit

The dial is one full cycle, counted back from today, with all of its marks at the top. If excursions kept a 6,000-year rhythm, the dots would bunch near the top. Instead they spread around the whole dial, and the best-dated ones sit far from the marks.

Where each excursion falls in a 6,000-year cycle



OUR ANALYSIS Each excursion’s age divided by 6,000 years leaves a remainder, which sets how far clockwise from the top it sits; the bottom of the dial is 3,000 years from a mark, the farthest an event can be. Dots that fall at the same point are stacked inward. Ages and evidence as in section 1.

1,640 years OUR ANALYSIS

average distance of the six best-dated excursions from the nearest mark. A real 6,000-year cycle would leave them about 470 years away, given their dating errors; in 200,000 simulations it never left them this far. Any cycle length from 5,720 to 6,100 years, marks counted from today, leaves them at least 1,550 years away. Laschamp alone, the best-dated excursion, sits 900 years from its mark, more than two and a half times its dating error.

72% OUR ANALYSIS

of 100,000 random catalogues put their dates at least as close to the marks as all twelve excursions, which sit 1,650 years from a mark on average; random dates average 1,500. A real cycle would leave all twelve about 920 years away, and this far about 6 times in 100,000. A test like this catches a real 6,000-year cycle counted from today about 4 times in 5.

4 of 12 OUR ANALYSIS

within 1,000 years of a mark, the number chance alone would give. Three of the four sit exactly 1,000 years away, so the count hangs on where you start: counted from 2026 instead of 1950, only Laschamp is within 1,000 years.

OUR ANALYSIS

With the marks anywhere

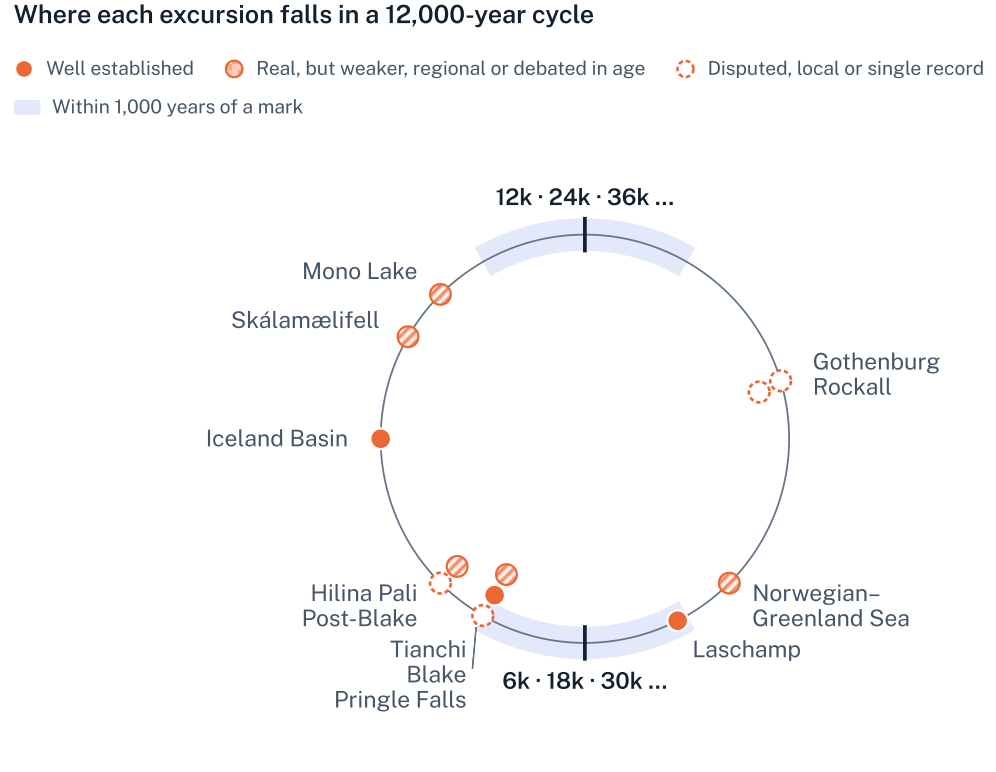
Moving the marks doesn’t rescue a 6,000-year cycle. Scored in a way that allows for each excursion’s dating error and needs no choice of where the marks fall (section 4), random catalogues fit a 6,000-year cycle at least as tightly as the twelve excursions 79% of the time. A real 6,000-year cycle of any timing would fit them about four times as tightly, and a test at that length alone would catch it 94 times in 100.

3 · A 12,000-YEAR CYCLE

Neither reading of a 12,000-year cycle finds support

The video promises “a case for a fuller harmonic up to a 12,000-year cycle” without saying what it would look like [V]. We tested the two obvious readings: excursions that recur every 12,000 years, and, as the original boards read it, a stronger excursion at every second mark of the 6,000-year cycle. On this dial, the marks at 12,000, 24,000, 36,000 years ago and so on are at the top, and those at 6,000, 18,000, 30,000 at the bottom.

Where each excursion falls in a 12,000-year cycle



OUR ANALYSIS As in section 2, with the remainder taken after dividing by 12,000 years (k = thousand years ago). Excursions at the top are near a mark at 12,000, 24,000, 36,000 years ago and so on; those at the bottom are near a mark at 6,000, 18,000, 30,000.

53% OUR ANALYSIS

of random catalogues fit a 12,000-year cycle at least as tightly as the excursions, allowing for dating errors, wherever its marks fall. A real 12,000-year cycle would fit them about three times as tightly, and a test at that length alone caught it in every one of 1,000 simulations.

None OUR ANALYSIS

of the twelve within 1,000 years of a mark at 12,000, 24,000, 36,000 years ago, where chance would put about two (93% of random catalogues sit at least as close). Four sit within 1,000 years of a mark at 6,000, 18,000, 30,000 (7%). An event’s distances to the two sets always add up to 6,000 years, so these are one measurement read from both sides; random dates match the better of them 13% of the time.

One OUR ANALYSIS

well-established excursion, Laschamp, is dated precisely enough to place on this dial, which is what a stronger-every-second-time pattern needs. The six best-dated events show no preference for either set: random dates match them at least 29% of the time.

OUR ANALYSIS

Excursions every 12,000 years?

Then they would bunch at one point of this dial. They don’t: the test that allows for dating errors, and needs no choice of marks, puts them at 53%, where a real cycle would almost always stand out. Counting distances to the two sets of marks says the same: 93% for the first set, 7% for the second and 13% for the better of the two. With Blake at 114,000 years, the middle of its stalagmite records, the second set’s figure falls to 5% and the better of the two to 9%, but Blake’s dating is far too loose for its place on this dial to count, and the test that allows for it doesn’t move.

OUR ANALYSIS

A stronger one at every second mark?

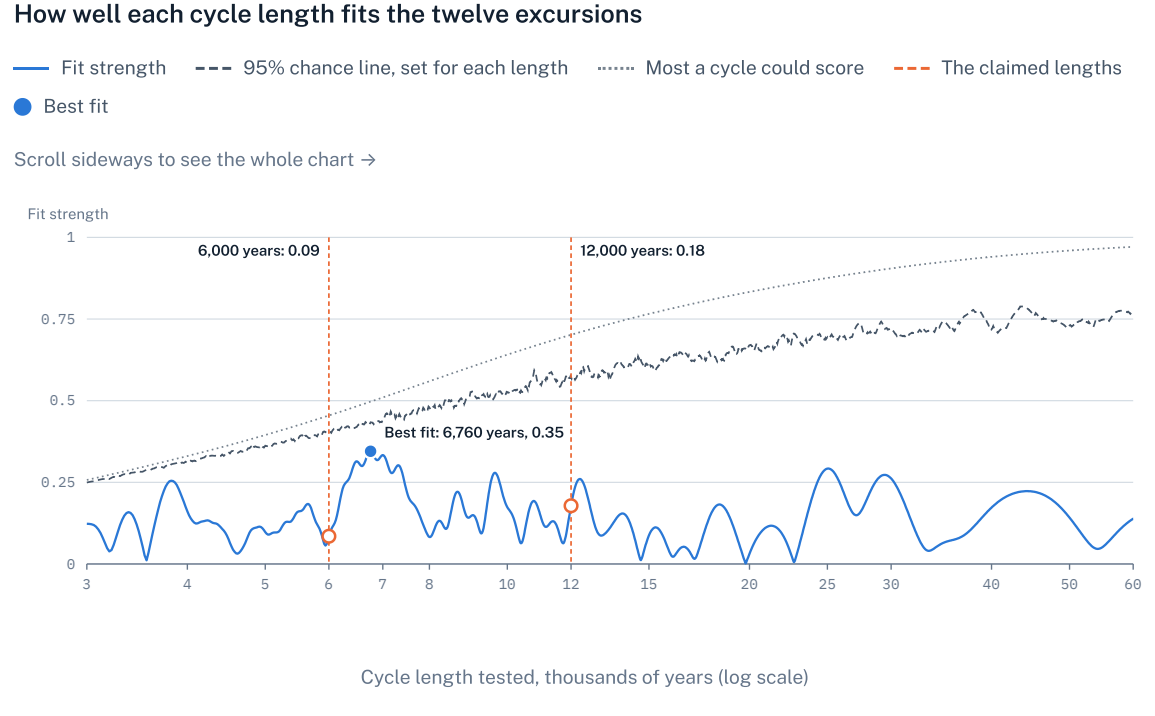
This reading needs an excursion at every 6,000-year mark, which section 2 rules out, and the strong excursions at every second one. Only Laschamp is both well established and precisely dated: it sits 900 years from the mark at 42,000 years ago, in the second set, and its dating can’t move it to the first [10 p. 139]. Blake sits near the same set, but its records span about 108,800–119,100 years ago, so its true age could put it near either [13][15], and Iceland Basin sits exactly halfway. One event can’t show a pattern. The original boards’ reading, that the strongest events land on the wrong marks, holds only if the major marks are the first set.

4 · EVERY CYCLE LENGTH

No cycle length stands out from chance, though short cycles are hard to see

If the rhythm isn’t exactly 6,000 years, it could be another length with marks that don’t line up with today; the video says “whether it’s 6,000 or 6,100 versus 5,721 years is also not important” [V]. So we scored every cycle length from 3,000 to 60,000 years, in steps of 20 years, by how tightly the excursions bunch at one point of the cycle, and judged each length against random catalogues at that same length.

How well each cycle length fits the twelve excursions



Scroll sideways to see the whole chart →

OUR ANALYSIS Fit strength is the length of the mean resultant of the excursions’ positions in the cycle [23]: 1 if every event fell at the same point, near 0 if they spread evenly around it. Each event counts for less the larger its dating error is compared with the cycle, as a random dating error would blur it, so the most a cycle could score, with every event exactly in step, is low for short cycles. The chance line is set separately for each length, from 20,000 random catalogues of twelve dates with the same dating errors, so that random catalogues cross it somewhere in the scan only 5% of the time.

STANDS OUT AS MUCH

OUR ANALYSIS

91%

of random catalogues, scanned the same way, find a cycle length that stands out at least as much as the excursions’ best fit, 6,760 years. On its own, a fit that strong at that length would happen by chance 1.6% of the time.

MORE UNUSUAL THAN 6,000 YEARS

OUR ANALYSIS

53%

of the lengths tested fit the excursions more unusually well than 6,000 years, each judged against chance at its own length; 20% fit more unusually well than 12,000 years.

COULD THE SCAN SEE A CYCLE?

OUR ANALYSIS

32%

of simulated real 6,800-year cycles of unknown timing stood out in the scan, given these dating errors; 18% at 6,000 years and 85% at 12,000.

OUR ANALYSIS

What the scan can and can’t show

At short lengths the older excursions, dated only to within 2,000–6,500 years, count for almost nothing, so the scan rests on the six best-dated events: the most a 6,000-year cycle could score is 0.45, and a real 6,800-year cycle would score about 0.39, close to the record’s best fit of 0.35. A search over every length therefore can’t tell a cycle of 6,000–7,000 years with unknown timing from chance. A cycle named in advance is different: tested at 6,000 or 12,000 years alone, a real cycle would almost always show up, and the excursions show neither (sections 2 and 3).

OUR ANALYSIS

The closest call

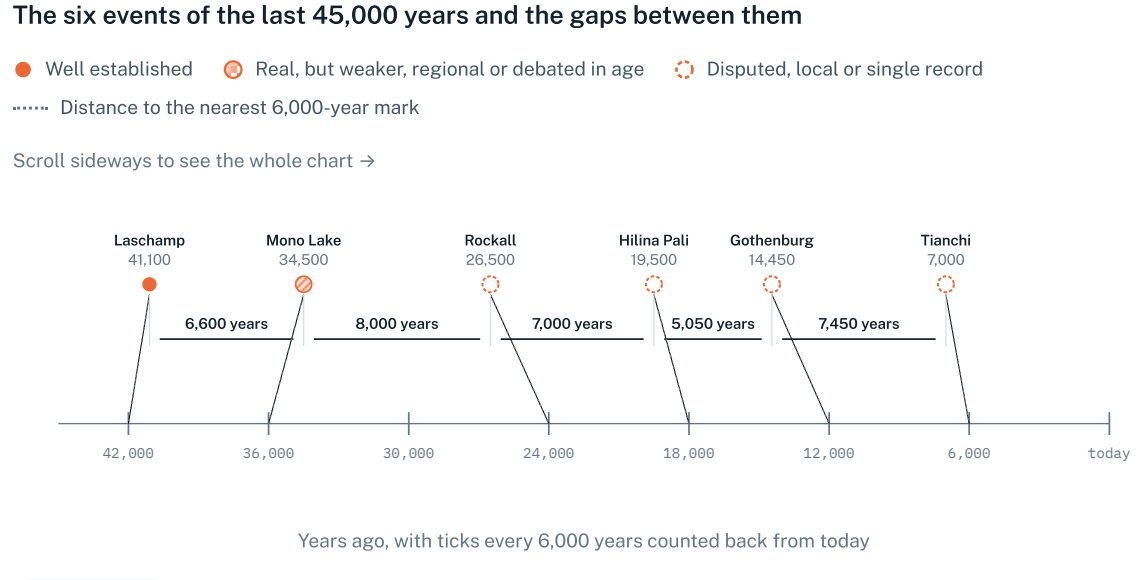
With only the eight excursions not classed as disputed, random catalogues fit a 6,000-year cycle, marks anywhere, at least as tightly 10% of the time, or 5% with Pringle Falls at the 238,800 years of one sediment record [20 p. 12]. That rests mostly on three events whose gaps happen to come close to whole multiples of 6,000 years: Mono Lake, Laschamp and the Norwegian–Greenland Sea event. It is not significant, it is one of several subsets we tried, and across all lengths those eight show nothing that stands out (51%).

5 · THE BEST PATTERN

The best pattern is a short run of mostly disputed events, about 6,800 years apart

Searching the record for any regularity turns up one real oddity: the six events of the last 45,000 years are unusually evenly spaced. Here is how strong that pattern is, and why it doesn’t add up to a clock.

The six events of the last 45,000 years and the gaps between them



Scroll sideways to see the whole chart →

OUR ANALYSIS Ages as in section 1, counted back from 1950. Lake Mungo, whose calendar age is uncertain by about 5,000 years, is left out.

AVERAGE GAP OUR ANALYSIS

6,820 years

The gaps run from 5,050 to 8,000 years. A cycle fitted to all six comes out at 6,800 years, with every event within 1,000 years of one of its marks. Neither is 6,000.

SPACING VARIABILITY

OUR ANALYSIS

0.15

The spread of the gaps divided by their average. Six random dates in 45,000 years typically score 0.75.

CHANCE OF SPACING THIS EVEN

OUR ANALYSIS

About 0.1%

About once in a thousand tries of six random dates. Typically 0.27% once dating errors are allowed for, and 1.4% in the least favourable tenth of cases.

Why it isn’t a clock

OUR ANALYSIS

Not 6,000 years

Even here, a 6,000-year grid counted from today fits no better than chance: random dates sit at least as close to its marks 65% of the time. At about 6,800 years apart, the six drift some 4,000 years, two-thirds of a cycle, across a 6,000-year grid between Laschamp and Tianchi.

Built mostly on disputed events

Four of the six are disputed, possibly local, or seen in a single record. Tianchi may be a local feature [1 p. 5]. Gothenburg was questioned in 1976, when another Swedish site showed no reversal or excursion [2]. In Hilina Pali’s best-dated record, the pole didn’t stray far enough to count as an excursion [3 §6]. Rockall comes from one sediment core [4].

OUR ANALYSIS

Chosen after looking

This stretch was noticed first and tested second, which makes it look more surprising than it is. Across all twelve excursions, the gaps run from 5,050 to 74,000 years and are as irregular as random dates: variability 1.04, against 0.86 for random catalogues.

OUR ANALYSIS

Fragile

Adding Lake Mungo at our calibrated 32,900 years raises the variability from 0.15 to 0.35, and at its uncalibrated radiocarbon age, about 30,000 years, to 0.25 [21 pp. 243, 246–247][22]; if Mono Lake is really a series of excursions between 36,000 and 30,000 years ago, the effect is similar [9 p. 1]. Other ages make the run more even: Hilina Pali at 20,500, the middle of its records, gives 0.12, and Gothenburg at the 13,100–12,500 years of a later record, 0.10 [24].

OUR ANALYSIS

A minimum gap explains part of it

Excursions take time: global models put Laschamp’s underlying excursion process at about 5,000 years, and Blake lasted 4,500 to 6,500 [9 p. 1][15][16 §7]. If excursions couldn’t recur within 3,000 years, spacing this even would turn up by chance about 1% of the time; within 4,000 or 5,000 years, 3% or 8%. But a 5,000-year gap is almost the shortest gap in the run itself, 5,050 years, so it comes close to assuming the evenness it explains.

OUR ANALYSIS

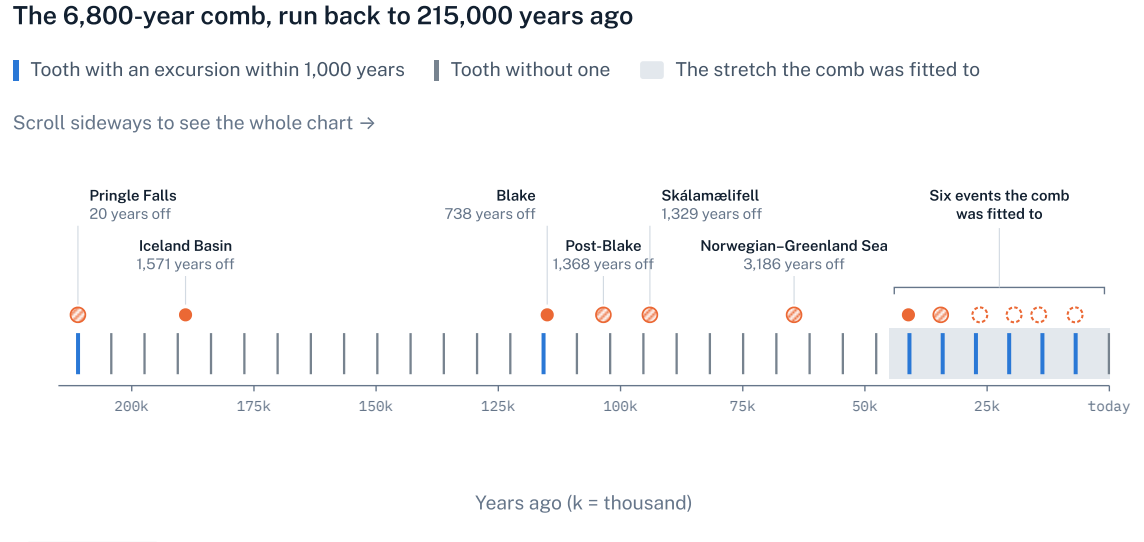
Too many teeth, and clusters instead

A 6,800-year cycle would mean 32 excursions in the last 215,000 years and over 100 since the last full reversal, about 773,000 years ago. Our catalogue has 12 for the last 215,000 years, 8 of them not classed as disputed, and reviews list 12 to 17 since the reversal [25][26]. Rather than keeping a steady beat, the well-dated excursions of that period fall into two clusters, between 220,000 and 30,000 years ago and between 720,000 and 520,000 [14 Abstract].

Running the pattern back

A real cycle would keep landing on excursions further back. The comb fitted to the six, with teeth 87 years before 1950 and every 6,803 years before that, neither clearly holds nor clearly breaks: the older excursions are dated too loosely to tell.

The 6,800-year comb, run back to 215,000 years ago



Scroll sideways to see the whole chart →

OUR ANALYSIS The dots use the same evidence classes as above. The labels give each older excursion’s distance from the nearest tooth; the farthest possible is 3,400 years.

TEETH THAT LAND

OUR ANALYSIS

8 of 32

have an excursion within 1,000 years: the six the comb was fitted to, Blake and Pringle Falls.

THE OLDER SIX

OUR ANALYSIS

1,370 years

from the nearest tooth on average: closer than the 1,700 of random dates, which do as well 21% of the time, and about as close as a real cycle would put them, given their dating errors (1,480).

COULD THE TEST TELL?

OUR ANALYSIS

13%

of the time, even if every older excursion had sat on a tooth. The older record can’t tell this cycle from none.

6 · WHAT THE CHECK CHANGED

Checked ages and fairer tests moved the numbers, not the overall answer

The original boards used the ages on the original infographic. Our evidence review changed five of them: Tianchi from 7,500 to 7,000 years ago, Gothenburg from 12,800 to 14,450, Hilina Pali from 20,000 to 19,500, Mono Lake from 34,000 to 34,500, and Post-Blake, drawn as one event at 99,500, became Post-Blake at 103,500 and Skálamælifell at 94,000. The uncertainties changed too: Tianchi from ±800 years to ±450, Gothenburg from ±300 to ±250, Mono Lake from ±1,500 to ±1,000, and Post-Blake from ±5,500 to ±2,000. We re-ran the boards’ code on their own ages, reproduced every number on them, and then ran the test again with the checked ages.

The boards’ numbers, before and after

MEASURE	ORIGINAL BOARDS	CHECKED AGES
Excursions tested	11	12
6,000-year cycle: average distance from a mark	1,700 years	1,650 years
… random catalogues at least as close	77%	72%
… against a real cycle counted from today	Not tested	The six best-dated sit 1,640 years from a mark, against about 470; never in 200,000 simulations
12,000-year cycle, marks at 12,000, 24,000…: within 1,000 years	1 (Gothenburg)	None
… random catalogues at least as close	88%	93%
… with marks at 6,000, 18,000… instead	Not tested	7%; either set, 13%
Period scan: best fit	7,040 years, 0.36	6,760 years, 0.35
… how it was judged	One chance ceiling, 0.63, for every length, which no cycle shorter than about 11,600 years could have reached	Each length against chance at that length; random catalogues stand out as much 91% of the time
… lengths fitting better than 6,000 / 12,000 years	About 4 in 5 / 2 in 3	53% / 20%, judged length by length
… better-established events only	About 25,000 years; 38% of random catalogues do as well (six events)	51% stand out as much (the eight not classed as disputed)
The young six: average gap	6,700 years	6,820 years
… spacing variability	0.12	0.15
… chance of spacing this even	0.04%	About 0.1%
… with a minimum gap between excursions	1–4% (4,000–5,000 years)	1%, 3%, 8% (3,000, 4,000, 5,000 years)
Comb fitted to the six	6,880 years	6,800 years
Teeth with an excursion within 1,000 years	5 of 31	8 of 32
Older excursions’ average distance from a tooth	2,500 years, worse than chance (1,700)	1,370 years; chance 1,700; a real cycle about 1,480
… could the run back detect a real cycle?	Not tested	13% of the time
All excursions: spacing variability (random)	0.99 (0.85)	1.04 (0.86)

Our analysis. The boards’ numbers are as printed on them; we reproduced each one from their code and ages. Their “better-established” set was six events; ours is the eight not classed as disputed.

OUR ANALYSIS

What changed a conclusion

The boards’ period scan compared every length with one chance ceiling, which loosely dated events put out of reach for every cycle shorter than about 11,600 years, so it couldn’t have found a 6,000-year cycle even if one existed. Judged length by length, nothing stands out either, but a scan over every length can barely see a short cycle of unknown timing; the case against the 6,000-year claim now rests on tests of that length itself (section 2). The boards also said the comb “breaks” when run back; with the checked ages the older excursions sit about where a real cycle would put them, and the test couldn’t have told either way. The boards’ reading of the 12,000-year cycle depended on which marks count as major (section 3).

OUR ANALYSIS

Smaller fixes

The boards said the comb let Tianchi, which they called the earliest event, miss by about 1,100 years; Tianchi is the latest, and with the checked ages it misses by about 100. Their period search used 4,000 random catalogues; we used 20,000. Iceland Basin, which a 2023 review counts among the three reliably established excursions since the last reversal, is now classed as well established, which changes no number [18 p. 45].

Does any single age change the answer?

VARIANT	6,000-YEAR CYCLE: RANDOM AT LEAST AS CLOSE	BEST FIT; RANDOM CATALOGUES STAND OUT AS MUCH	YOUNG SIX: CHANCE OF SPACING THIS EVEN	OLDER EXCURSIONS FROM A TOOTH (CHANCE)
Checked ages (this page)	72%	6,760 years; 91%	0.1%	1,370 years (1,700); p = 0.21
Post-Blake and Skálamælifell as one event, at 98,000 years	73%	6,740 years; 92%	0.1%	1,640 years (1,700); p = 0.45
Pringle Falls at 238,800 years (±2,000)	75%	6,780 years; 88%	0.09%	1,470 years (1,700); p = 0.29
Gothenburg at 12,800 years	52%	7,040 years; 79%	0.02%	2,160 years (1,740); p = 0.85
Hilina Pali at 20,500 years	82%	6,700 years; 63%	0.04%	1,350 years (1,700); p = 0.20
Blake at 114,000 years	60%	6,740 years; 92%	0.09%	1,540 years (1,700); p = 0.34
All ages counted back from 2026	74%	6,780 years; 91%	0.1%	1,370 years (1,700); p = 0.21

Our analysis. Pringle Falls at 238,800 years follows one sediment record, with its ±2,000 years [20 p. 12]; Gothenburg at 12,800, a later Chinese record that claims it [24]. The variants use 4,000 random catalogues for the period scan, the checked ages 20,000. In every variant the six best-dated excursions sit far from the marks of a 6,000-year cycle counted from today: never as far in 200,000 simulations of a real one.

7 · METHOD AND LIMITS

How the test works, and what it can’t show

Every statistic on this page comes from one script, which you can run yourself; the random draws use fixed seeds, so it gives the same numbers every time.

The dials

The distance from each age to the nearest mark of a cycle counted back from 1950, averaged over the excursions. The chance level comes from 100,000 random catalogues of the same number of dates, each placed at random with every age equally likely, over 0–215,000 years, or 0–45,000 years for the six best-dated events.

A real cycle, simulated

Each excursion is moved to the cycle mark nearest its age and then shifted by a random dating error of its one-sigma size: 200,000 times for a 6,000-year cycle counted from today, and 1,000 times for cycles of 6,000, 6,800 and 12,000 years with random timing, to see how often each test would catch them.

Fit strength and the scan

For a cycle of length P, each excursion becomes a point on a circle at angle $2\pi \times \text{age} / P$, weighted by $\exp(-\tfrac{1}{2}(2\pi\sigma/P)^2)$, how much a normal dating error σ blurs it; the fit strength is the length of the average of those points [23]. Each length’s fit is judged by the share of 20,000 random catalogues that score as high at that length; the scan’s result is the best of those, judged against the best found in each random catalogue.

The young six and the comb

Spacing variability is the standard deviation of the five gaps divided by their mean, judged against 100,000 random catalogues of six dates over the last 45,000 years, with dating errors simulated 20,000 times; the minimum-gap model places events at random but never closer together than 3,000, 4,000 or 5,000 years. The comb is the length that best fits the six, in steps of one year; the older excursions are scored against 100,000 catalogues of six dates between 45,000 and 215,000 years ago, and the power check puts each on its nearest tooth 2,000 times.

Missing excursions

Random catalogues treat every age as equally likely to leave a recorded excursion. Real records don’t: slowly accumulating sediments can smooth excursions out of the record, and the catalogue is likely to grow as older intervals are studied in detail [27 pp. 2–3]. Missing events leave fewer to test, which lowers every test’s power.

Our uncertainties

Most of the one-sigma values are our estimates from published age ranges. Larger ones would make the older excursions count for even less; smaller ones would let them count for more without moving their ages.

Which events count

Four of the twelve are disputed, and other events have been proposed. We kept the disputed ones because the cycle story leans on them; without them, nothing stands out either (section 4).

Ages from 1950

The sources count ages back from 1950. Counting from 2026 shifts every age by 76 years; the averages and chances barely move, but the count within 1,000 years of a 6,000-year mark drops from 4 to 1, which is why the average, not the count, is our main measure.

Limited power

The record rules out a regular 6,000-year cycle counted from today and a regular 12,000-year cycle. It can’t tell a cycle of 6,000–7,000 years with unknown timing from chance: with these dating errors, a scan over every length would catch a real 6,800-year cycle only about one time in three.

The original code

We recovered the code behind the original boards and re-ran it on their ages, and every number on the boards reproduced. The script below is a rewrite with the checked ages, more random catalogues, the length-by-length scan and the added tests on this page.

Code and numbers

PY **cycle_test.py**
The whole test: the dials, the simulated real cycles, the period scan judged length by length, the young six, the comb and its run back, the power checks, and the variants in section 6 · 34 KB

JSON **cycle-test-numbers.json**
Every statistic on this page, for the checked ages, the boards’ ages and each variant, with the fit strength, chance line and chance at every cycle length tested · 695 KB

Run it

Run `python3 cycle_test.py`. It needs Python 3 with NumPy, takes about eight minutes, prints a summary for each catalogue, and writes `cycle-test-numbers.json`. Change an age in the script to see how the answer moves.

What would change this verdict

01 New excursions dated to within a few hundred years that fall near the marks of a 6,000-year or 12,000-year cycle more often than random dates would.

02 Firm, worldwide ages for the four disputed young events that keep them evenly spaced, and older excursions dated well enough to test whether the comb runs back.

03 A physical model of Earth’s core that predicts a period, tested on records it wasn’t tuned to.

Related checks

FALSE Every 6,000 years? The Disaster Cycle, Fact-Checked

Sources

Bracketed numbers refer to this list; p. and pp. give pages (the journal’s own page numbers), § gives a section, and Abstract names the part of a work we used. [V] is the video we checked. Links checked October 13, 2026.

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METHOD

How this was checked

On October 13, 2026, we recovered the code behind the two original boards, re-ran it on their ages and reproduced every number on them. We then checked each excursion age against its sources, with our evidence review of the record, and re-ran the test with the checked ages and more random catalogues. Every statistic on this page comes from the script in section 7, and the charts are drawn from its output.

After the page was built, a second reviewer who hadn’t seen the drafting re-ran the script, which reproduced every number exactly, and checked the statistics and the sources. Two problems followed. The boards’ period scan judged every cycle length against one chance ceiling that no cycle shorter than about 11,600 years could reach, so we now judge each length against chance at that length and say what the scan can’t detect. And the page had put “a stronger one every 12,000 years” in the video’s mouth; it now quotes what the video says. We also added simulations of a real cycle, which show that the record contradicts a 6,000-year cycle counted from today rather than merely failing to support it, reported every minimum gap we tried, and added the variants and caveats the reviewer asked for.

The verdicts and the items tagged “Our analysis” are our own work, built on the cited sources: the one-sigma uncertainties other than those of Tianchi, Laschamp and Pringle Falls, the calibrations of Gothenburg and Lake Mungo with IntCal20 and SHCal20 [6][22], and every statistic. The evidence classes are our reading of the sources, not a published classification.

The video is quoted from the transcript behind our check of it [V].

This page was researched and written with Claude, an AI assistant made by Anthropic, and then re-checked against its sources in a separate verification pass.

The verdicts on this page

FALSE	The evidence contradicts the claim.
OVERSTATED	Has some basis but claims much more than the evidence supports.
UNSUPPORTED	No evidence we could find backs it up, though it hasn’t been strictly disproven.

All ten verdicts, and how we check

CORRECTIONS

Corrections and changes

If we get something wrong, we fix it and record the change below with the date. If a correction changes a verdict, the log says what the old verdict was.

Change log

Oct 13, 2026	Published on factchecked.science after a full check of the ages against their sources, a re-run of the boards’ code and an independent review. The main changes from the two original boards: the ages follow our evidence review (Tianchi 7,000 years ago instead of 7,500, Gothenburg 14,450 instead of 12,800, Hilina Pali 19,500, from its best-dated record, instead of 20,000, Mono Lake 34,500 instead of 34,000), several uncertainties changed, and Post-Blake and Skálamælifell are separate phases, so twelve excursions are tested instead of eleven. Random catalogues now match the 6,000-year cycle 72% of the time instead of 77%, and a simulated real 6,000-year cycle shows the record contradicts it. The period scan judges each length against chance at that length instead of one ceiling of 0.63 that short cycles couldn’t reach; nothing stands out (91%), but the scan can’t see a short cycle of unknown timing. The 12,000-year cycle is tested with either set of major marks and without marks; the boards’ conclusion that the strongest events land on the wrong marks is withdrawn. The six youngest events are 6,820 years apart on average, with a spacing variability of 0.15 instead of 0.12, which random dates match about 0.1% of the time instead of 0.04%. Run back, the comb no longer “breaks”: the older excursions sit about where a real cycle would put them, and the test couldn’t have told. Added the claims each part answers, with our verdicts, and the script and its numbers.
Sep 28, 2026	Original boards, “Is there a 6,000/12,000-year cycle?” and “The best pattern we could find,” with the cycle test run on the ages of the original infographic.

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