

The background of the entire page is a blue-tinted photograph of two swimmers in a pool. One swimmer is in the foreground, captured mid-stroke with arms extended forward. Another swimmer is visible behind them. Lane lines are visible in the water.

2017-18 NCAA Championship Comparison

Actionable Insights
From 6 Key Races



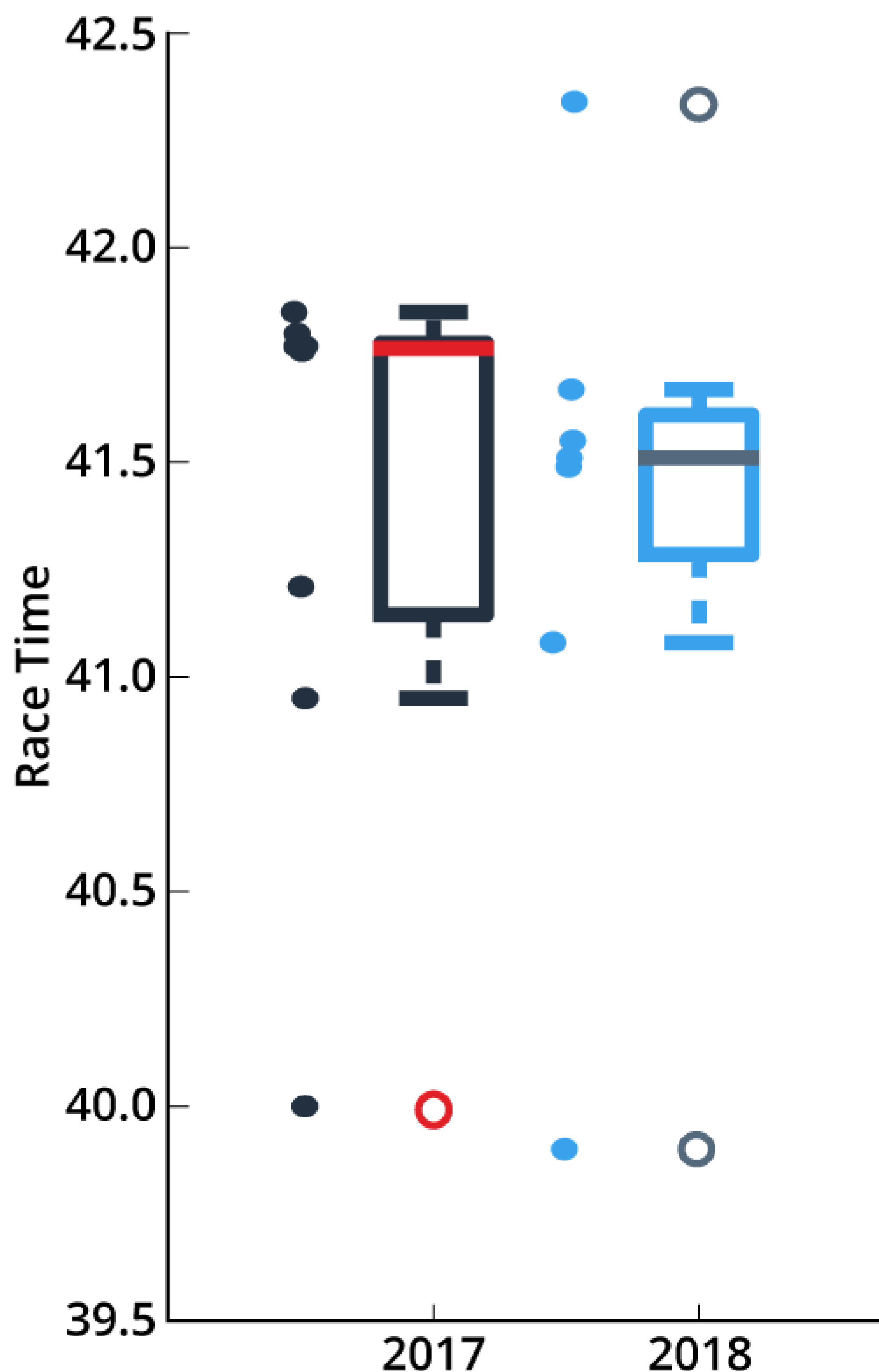
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Men's 100 Free

Overall, average race time reduced by 0.06%,
however the middle of the field saw a larger
0.61% improvement.



- The slowest 2018 competitor finished 0.5 s behind slowest in 2017
- The average Stroke Efficiency across the field rose by 0.2 in 2018
- Time Underwater decreased 0.1 s on average, with the fastest competitor adding 0.2 s and the slowest dropping 0.3 s

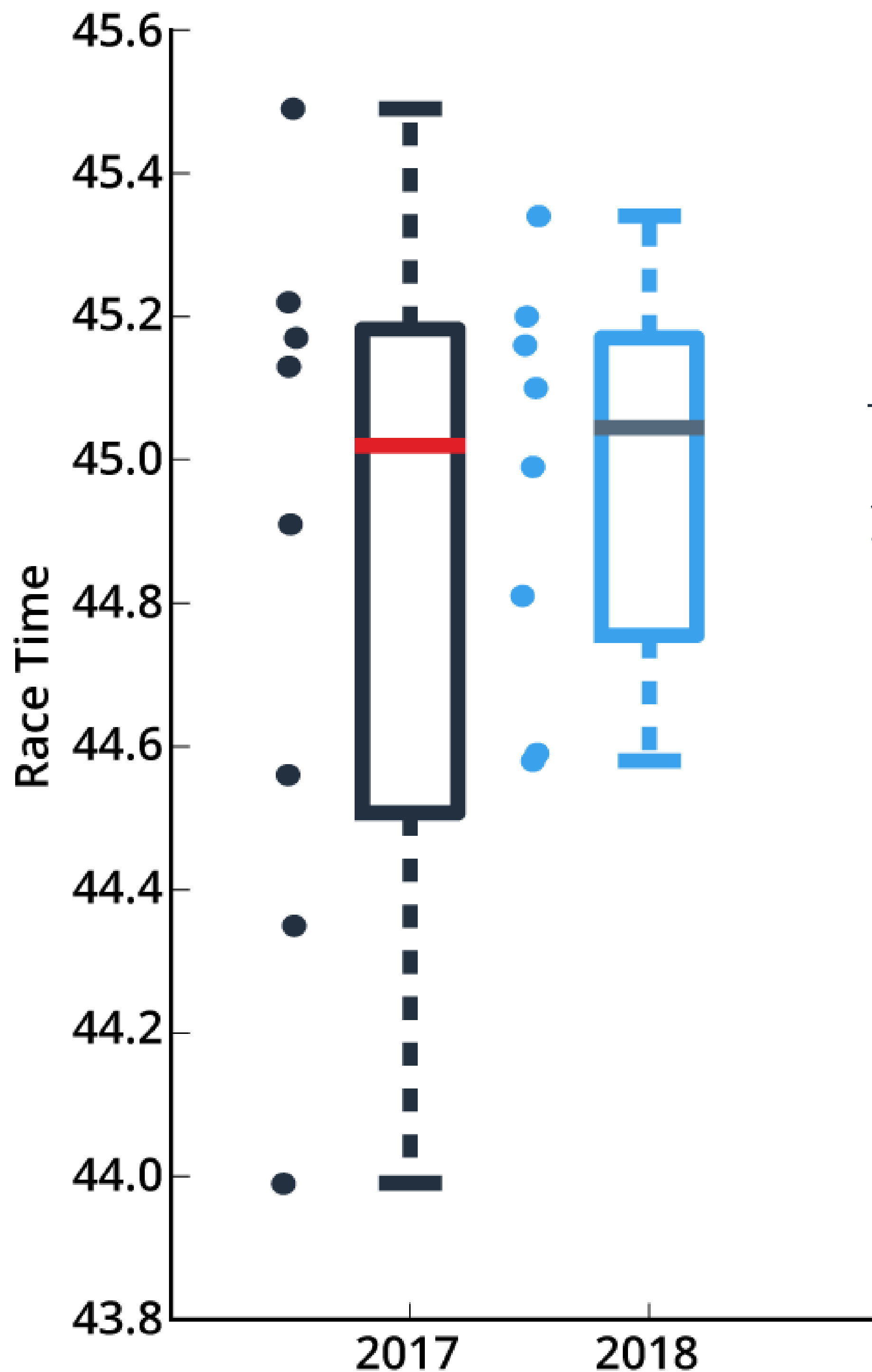
How to read the graphs:

- The dots indicate each individual swimmer: navy blue for 2017, bright blue for 2018
- The box indicates the range of performances falling between 25% - 75%, while the vertical lines above and below represent the rest of the field.
- Red or Grey circles above or below the lines are outliers (e.g. Lilly King, Caeleb Dressel)
- The line inside each box represents the median



Men's 100 Back

The final race time for the field condensed in 2018, with the fastest competitor finishing 0.6 s later than in 2017, while the slowest finished 0.2 s ahead of the 2017 race.



Time Underwater saw most change, 2018 being an average 1.6 s longer

- DPS and Stroke Rate remained stable, while Speed improved slightly, contributing to a more efficient Stroke Index in 2018

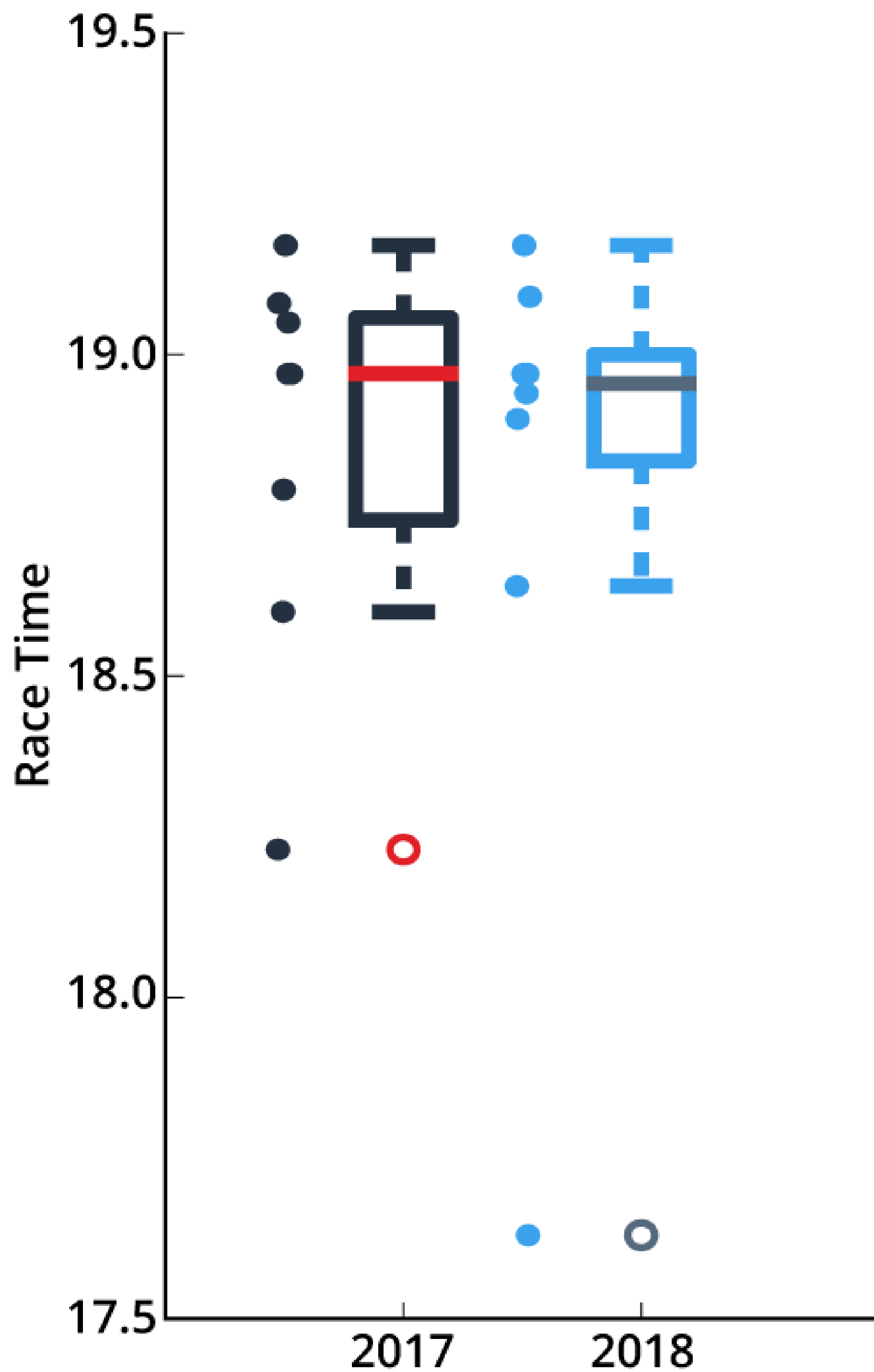
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Men's 50 Free

While Dressel blew the competition away even further than in 2017, the rest of the field remained very stable, the average time dropping only .4%.



- Stroke Index range widened by 0.7 in 2018, the bottom dropping 0.3 m and the top gaining 0.4 m
- In 2017, a 1.2 m DPS was considered a very high outlier, where in 2018, this value falls within the mid-range (25-75th percentile)

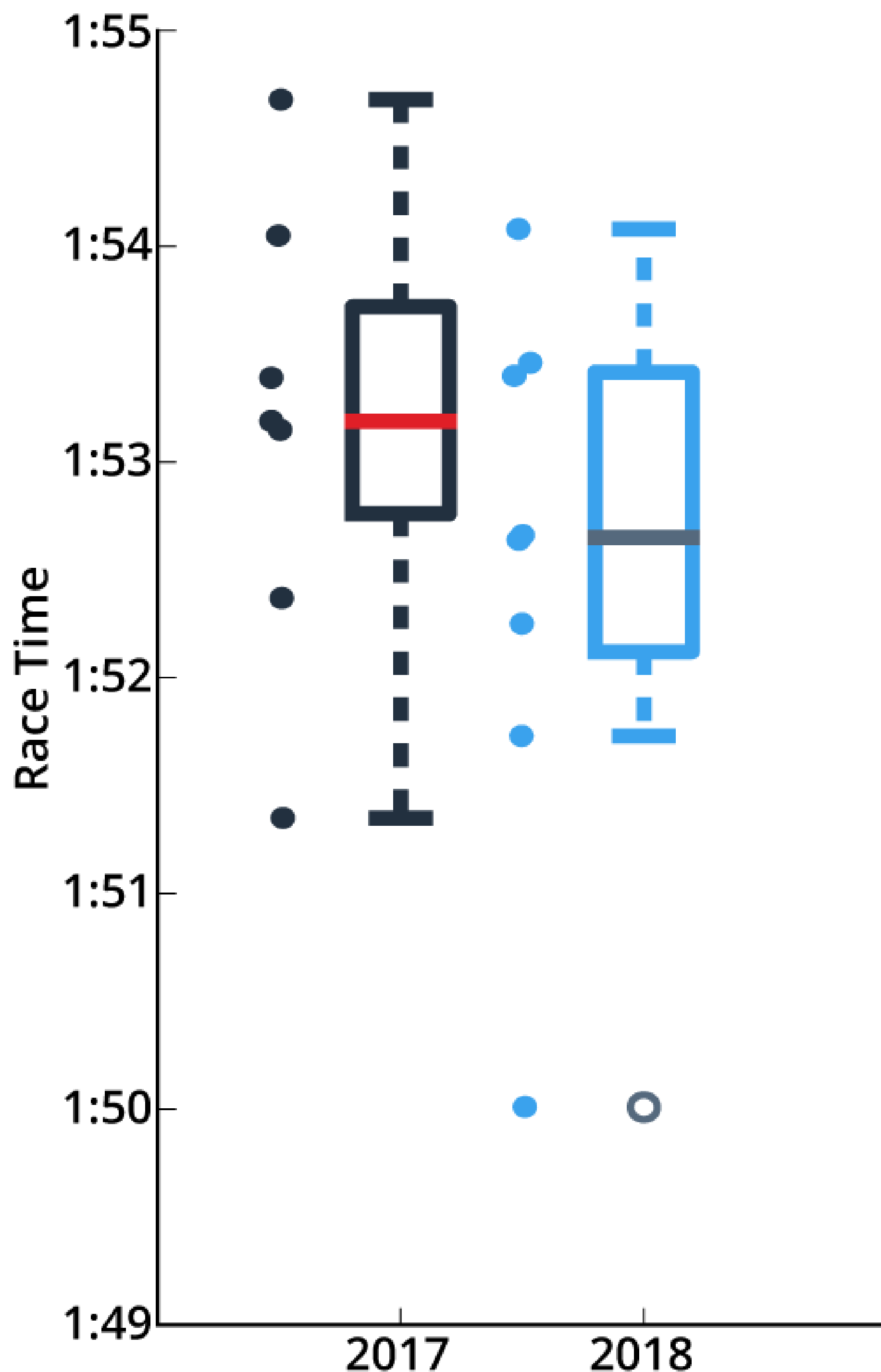
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Women's 200 Fly

The field had one significant outlier (Ella Eastin) in 2018, causing the field to widen. The slowest competitor in 2018 finished 0.7 s sooner, and the fastest a whopping 1.4 s earlier.



- While DPS remained quite stable, Stroke Rate got 0.2 s/cycle faster on average in 2018
- Stroke Index saw the largest fluctuation in 2018, dropping .3 on average, and widening the gap between first and last by 0.7

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Digging a little deeper into two impressive races

- **Men's 100 Butterfly**

The three most changed metrics from 2017 to 2018 were Time Underwater (Fig. 1), Stroke Rate (Fig. 2), and Stroke Count (Fig. 3). See our analysis of each below.

Note: there were only 7 finishers in 2017, as Lane 7 was DSQ in the race

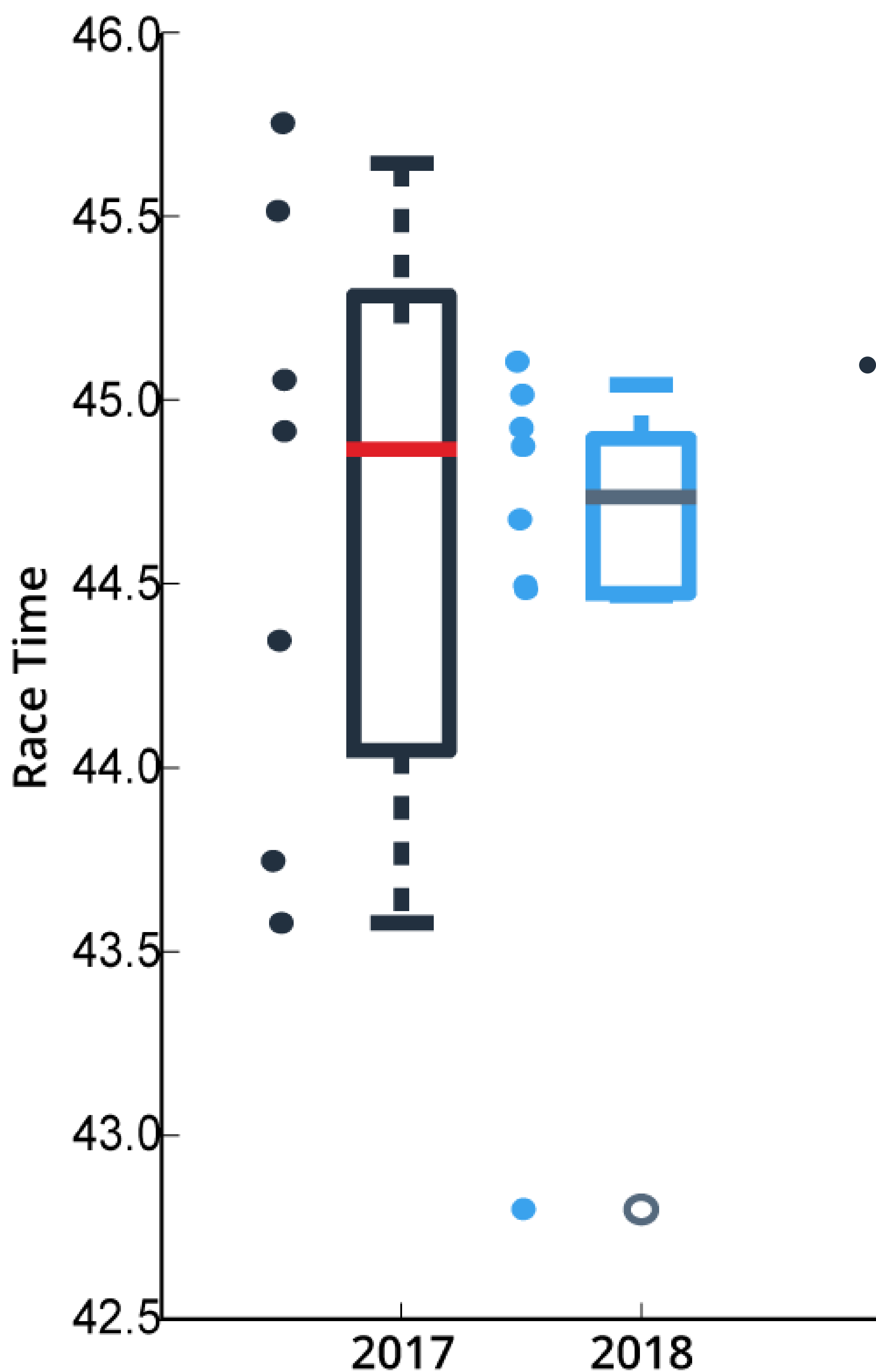
- **Women's 100 Breaststroke**

The most changed metrics from 2017 to 2018 were Time Underwater (Fig. 1), and Stroke Rate (Fig. 2). See our analysis of each below.



Men's 100 Butterfly

Overall, the Men's 100 Fly finished 0.75s faster in 2018, with only 0.6s separating 2nd and 8th, where 2017 had ~2s separating the field



- There was significant movement across all metrics year over year, even if we ignore the Dressel factor.

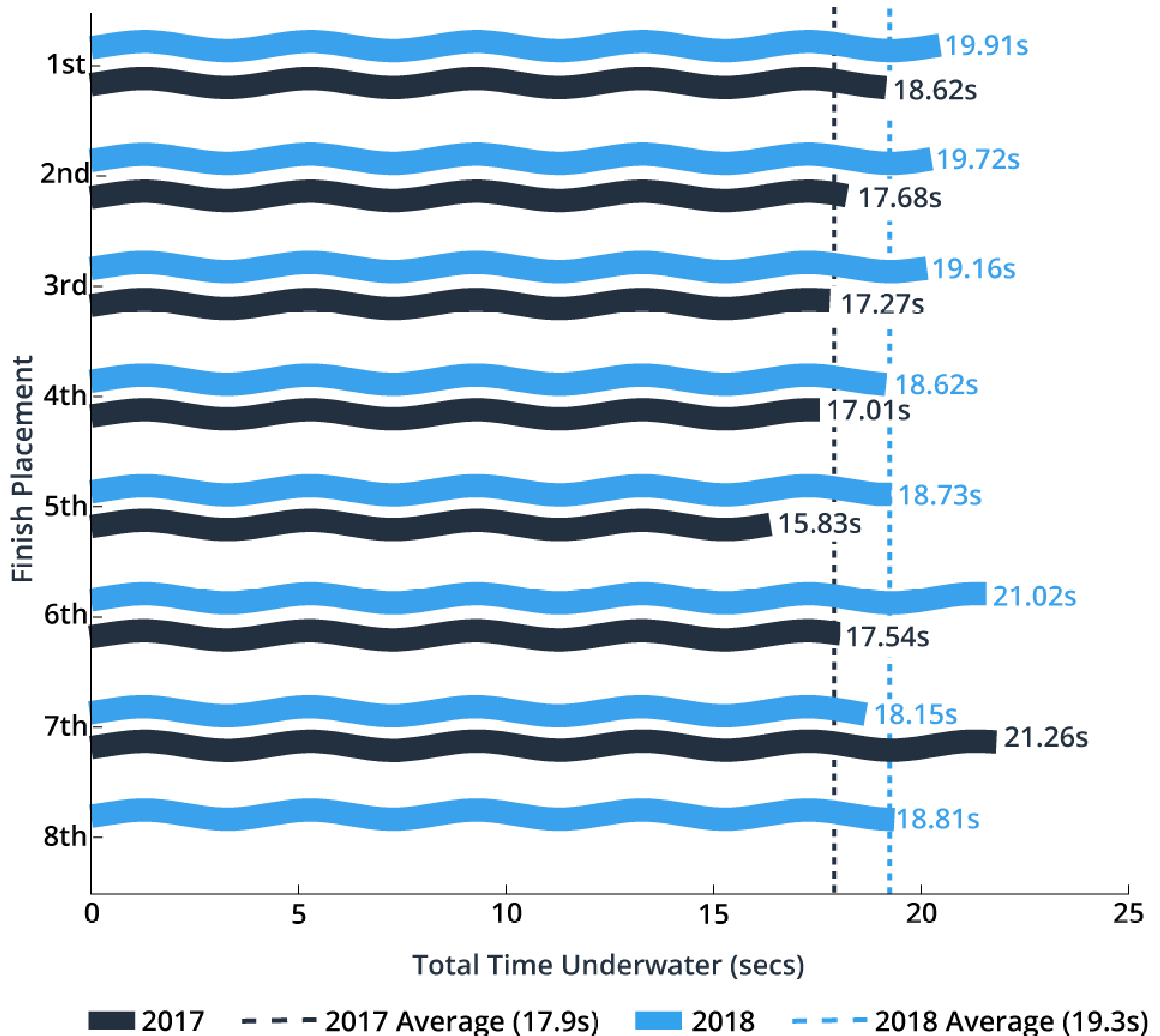
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Men's 100 Butterfly

Fig 1. Total Time Underwater



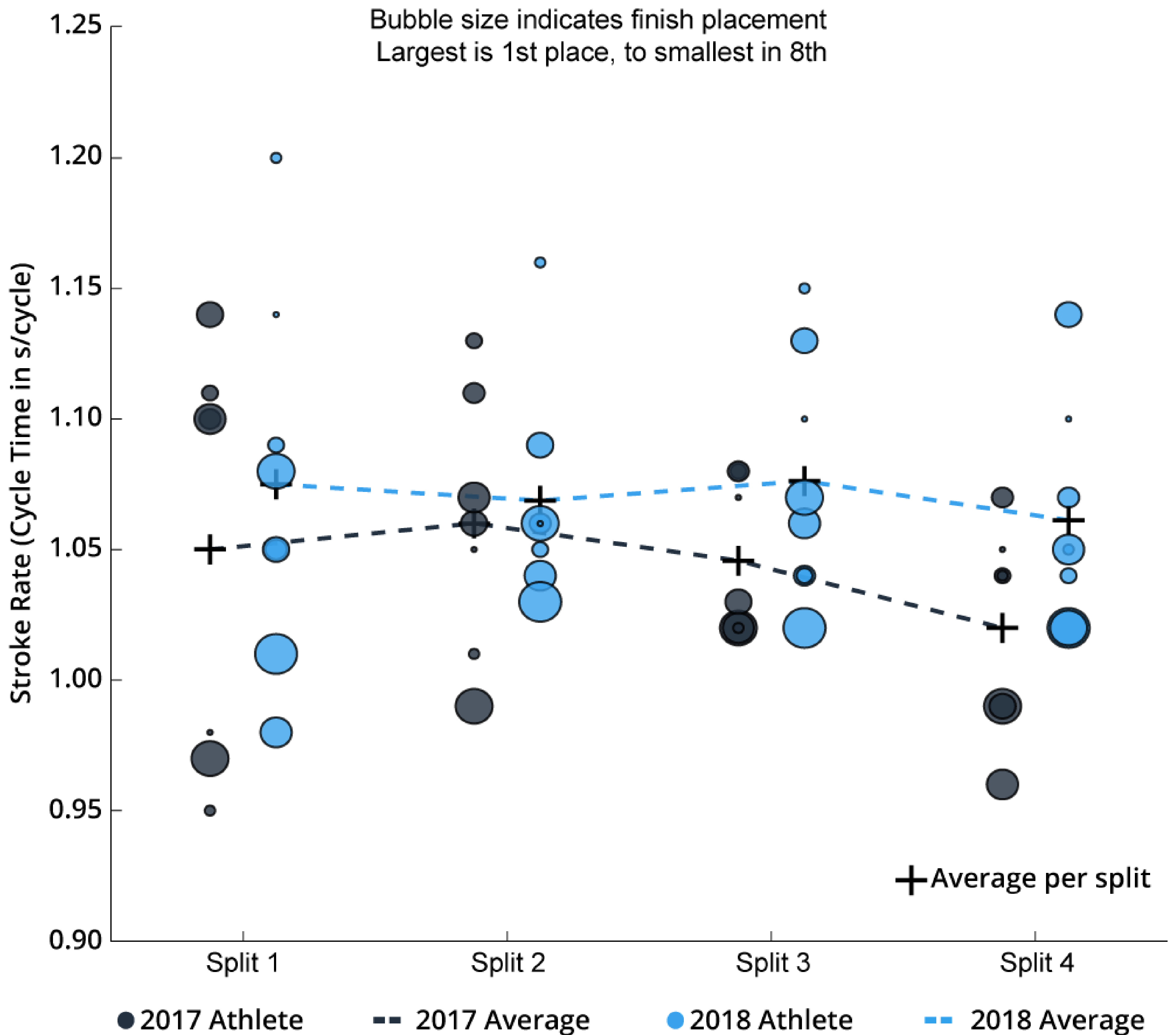
Time Underwater:

- As shown by the graph of Total Time Underwater (Fig. 1), Time Underwater increased across most of the field
- More than half of the 2017 competitors went shorter than 18 s total time underwater, while in 2018 everyone remained under for at least 18s
- The average competitor in 2018 stayed under 8% longer, with the middle 2 competitors just behind average at 7.8%



Men's 100 Butterfly

Fig 2. Stroke Rate by Split



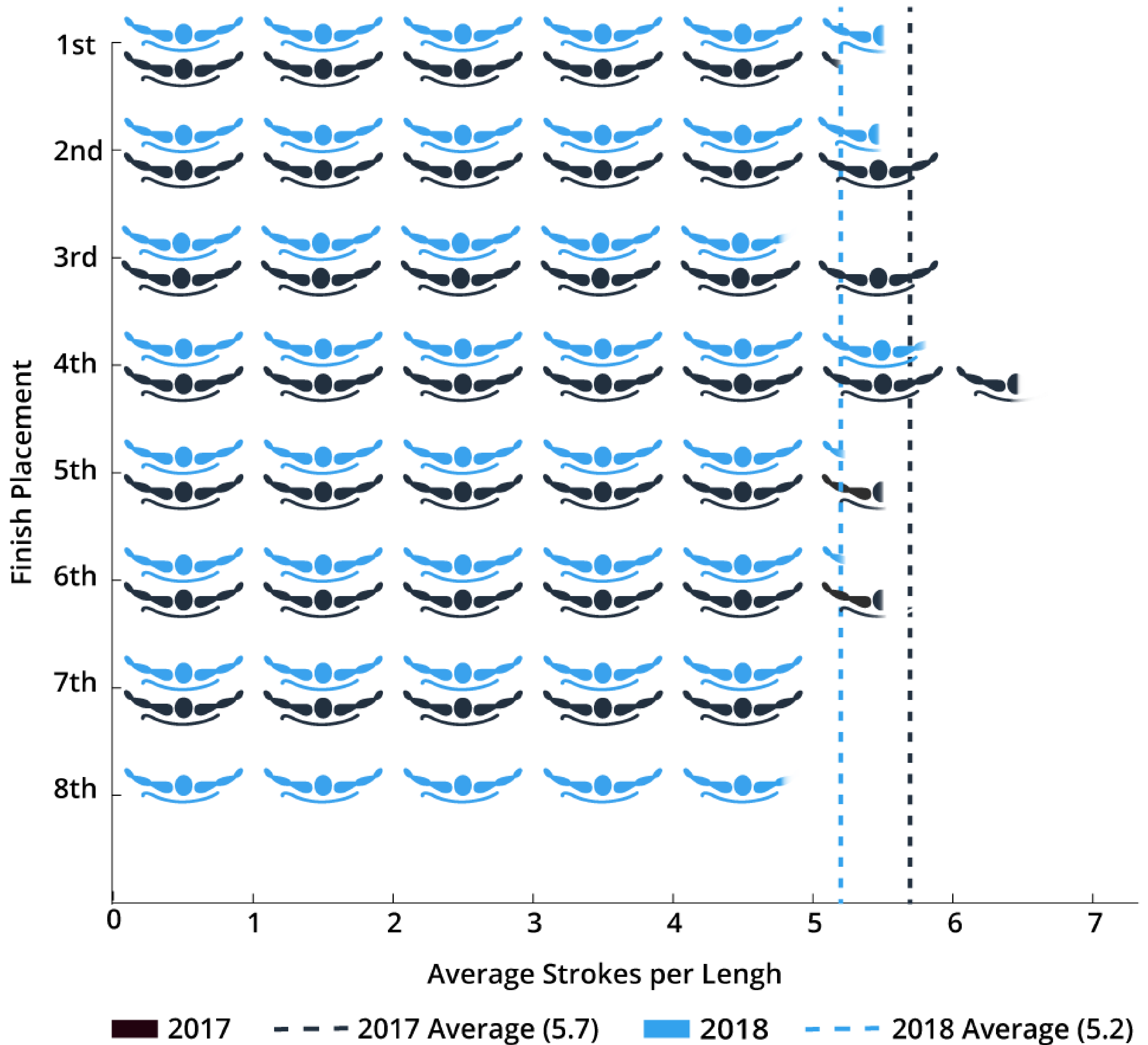
Stroke Rate (Cycle Time):

- As shown in the graph of Stroke Rate above (Fig. 2), cycle times on average got faster in 2018, with significant changes on the 2nd and last splits
- The average slowed down by 2.5%, but the middle saw less fluctuation at 1.4%
- The slowest Stroke Rate slowed by 0.1 s/cycle



Men's 100 Butterfly

Fig 3. Average Stroke Counts per Length



Stroke Count:

- In Fig. 3 above, we can see stroke counts decreased for most athletes in 2018
- Stroke count decreases seem to be related for the most part to time underwater increases
- Total range of stroke counts in each length decreased since no swimmer averaged more than 6 strokes per length in 2018



Men's 100 Butterfly

DPS:

- The 2018 field is more condensed, reducing the longest strokes by ~0.2 m and increasing the shortest by 0.4 m
- 2018 saw one outlier at the front of the field (Dressel), where 2017 had one outlier significantly behind the field
- Average field dropped 0.1%, but middle increased by 0.3%

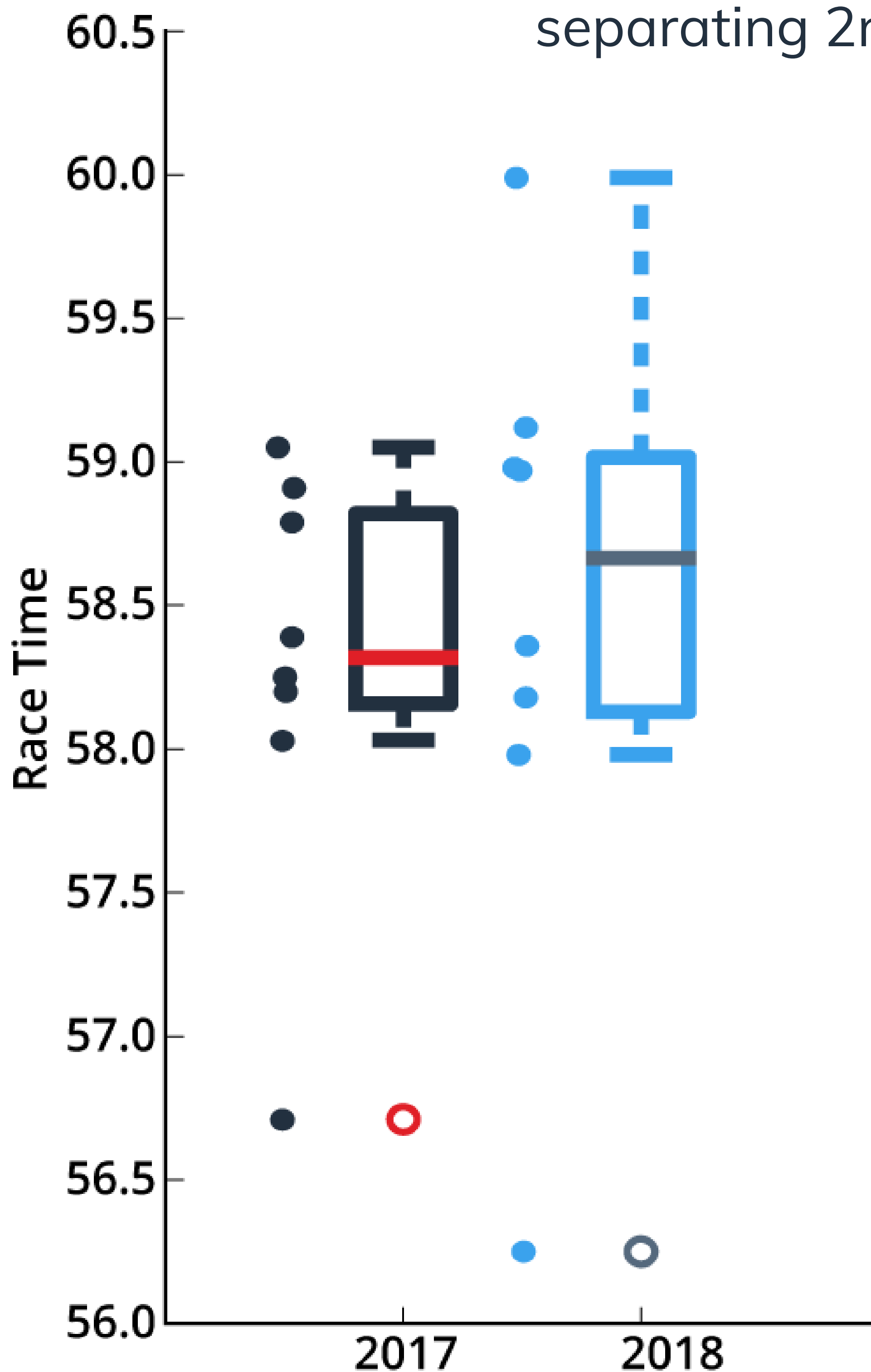
Stroke Index:

- Majority of field produced less efficient strokes in 2018
- Swimmers increased their stroke index, particularly in the first split, where the average Stroke Index increased from 4.5 to 4.9
- Overall average is up 0.6%, but middle group only up 0.3%



Women's 100 Breaststroke

2018 saw a far more dispersed field overall in the Women's 100 Breaststroke race, with nearly 4 s separating 1st from 8th, but only 1 s separating 2nd from 7th.



- Several metrics saw some shifting year over year in the Women's 100 Breast, while others remained quite similar.
- Also Lilly King put in a great performance, with many of her individual metrics making noticable moves

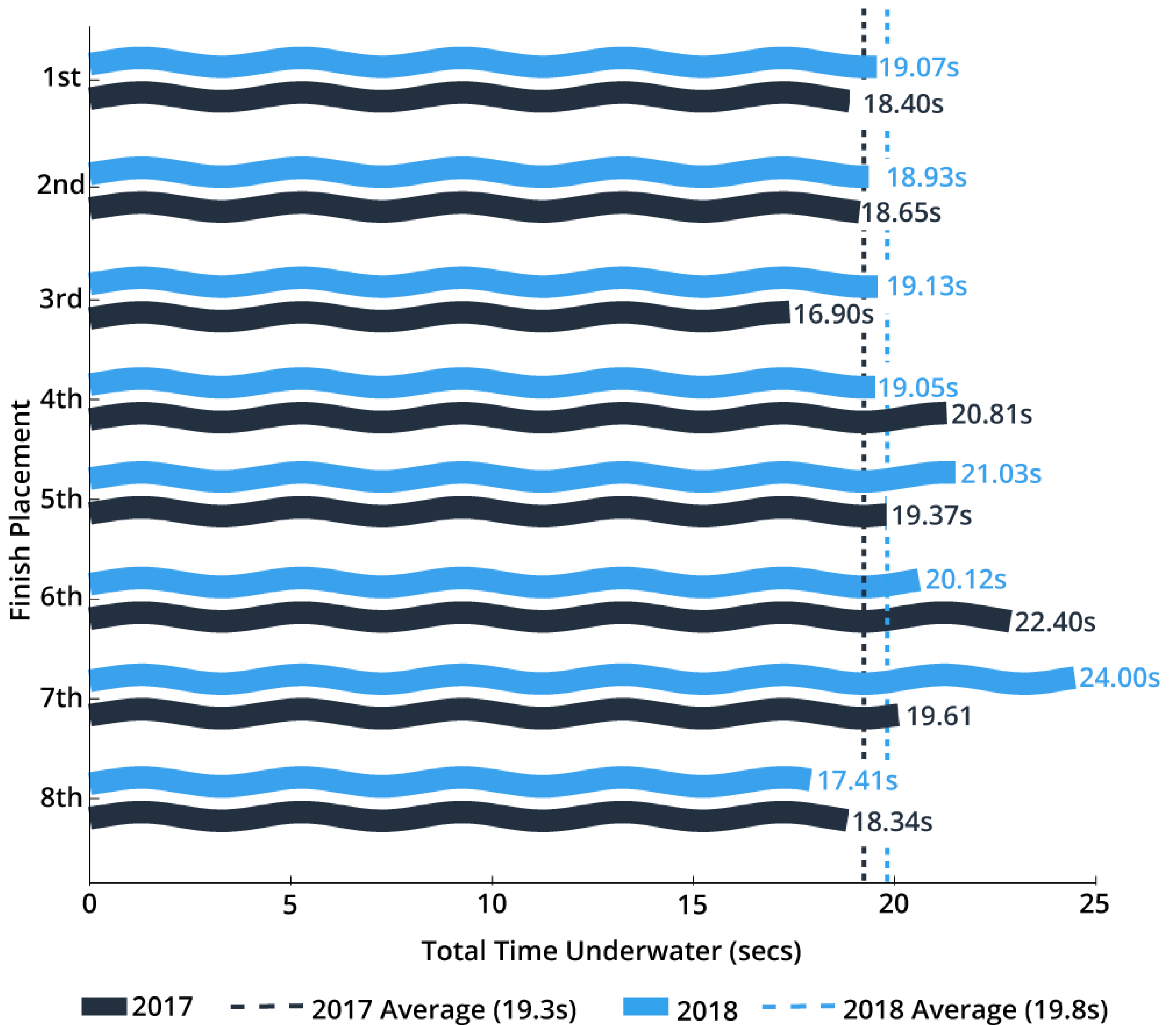
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Women's 100 Breaststroke

Fig 1. Total Time Underwater



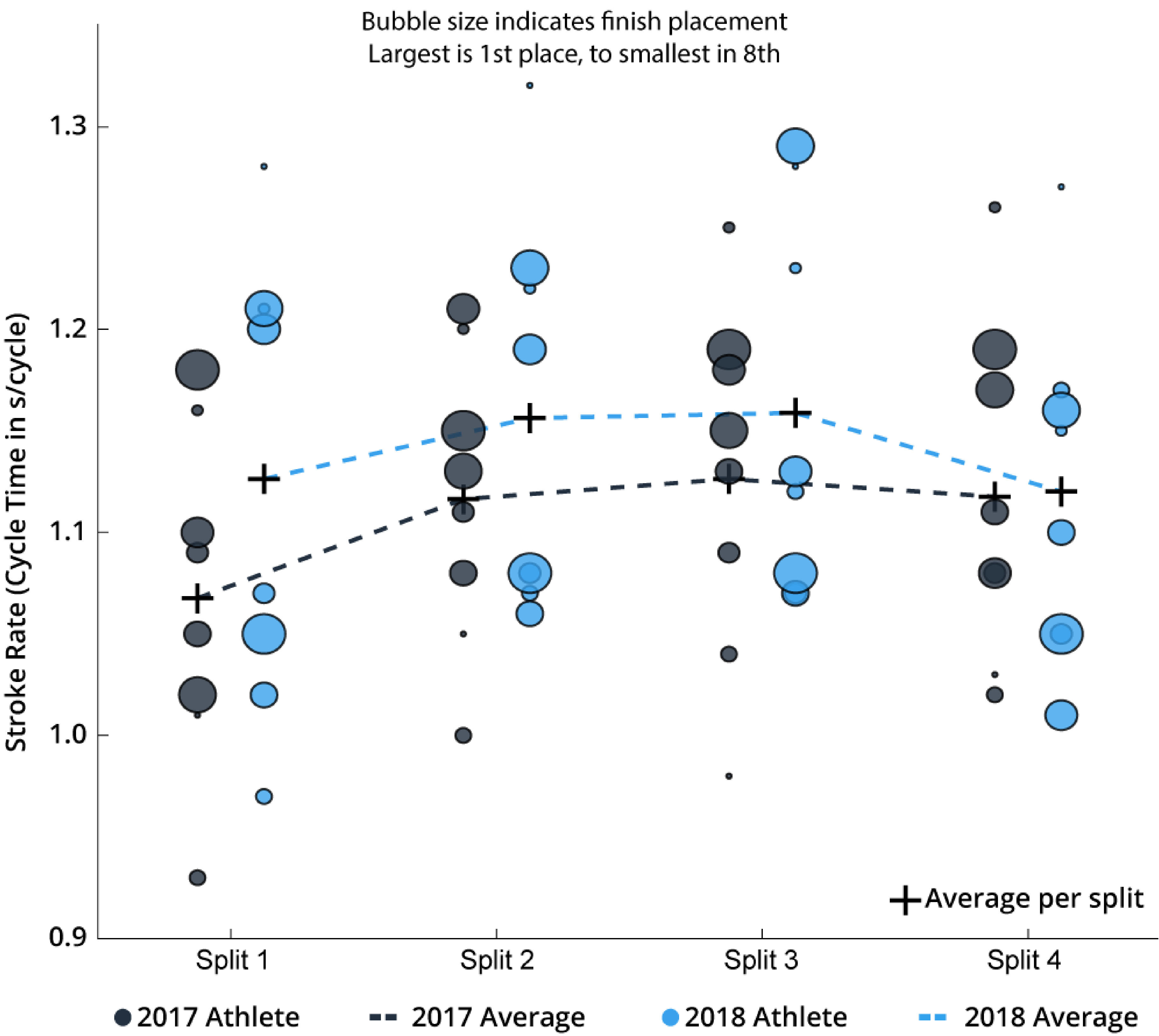
Time Underwater:

- In Fig. 1 above, we see an almost small average increase in time spent underwater in 2018 (half a second longer)
- The longest total Time Underwater rose by 0.6s while the shortest also rose a similar amount, by 0.5s
- Top four finishers in 2018 held very similar total time underwater near 19 s



Women's 100 Breaststroke

Fig 2. Stroke Rate by Split



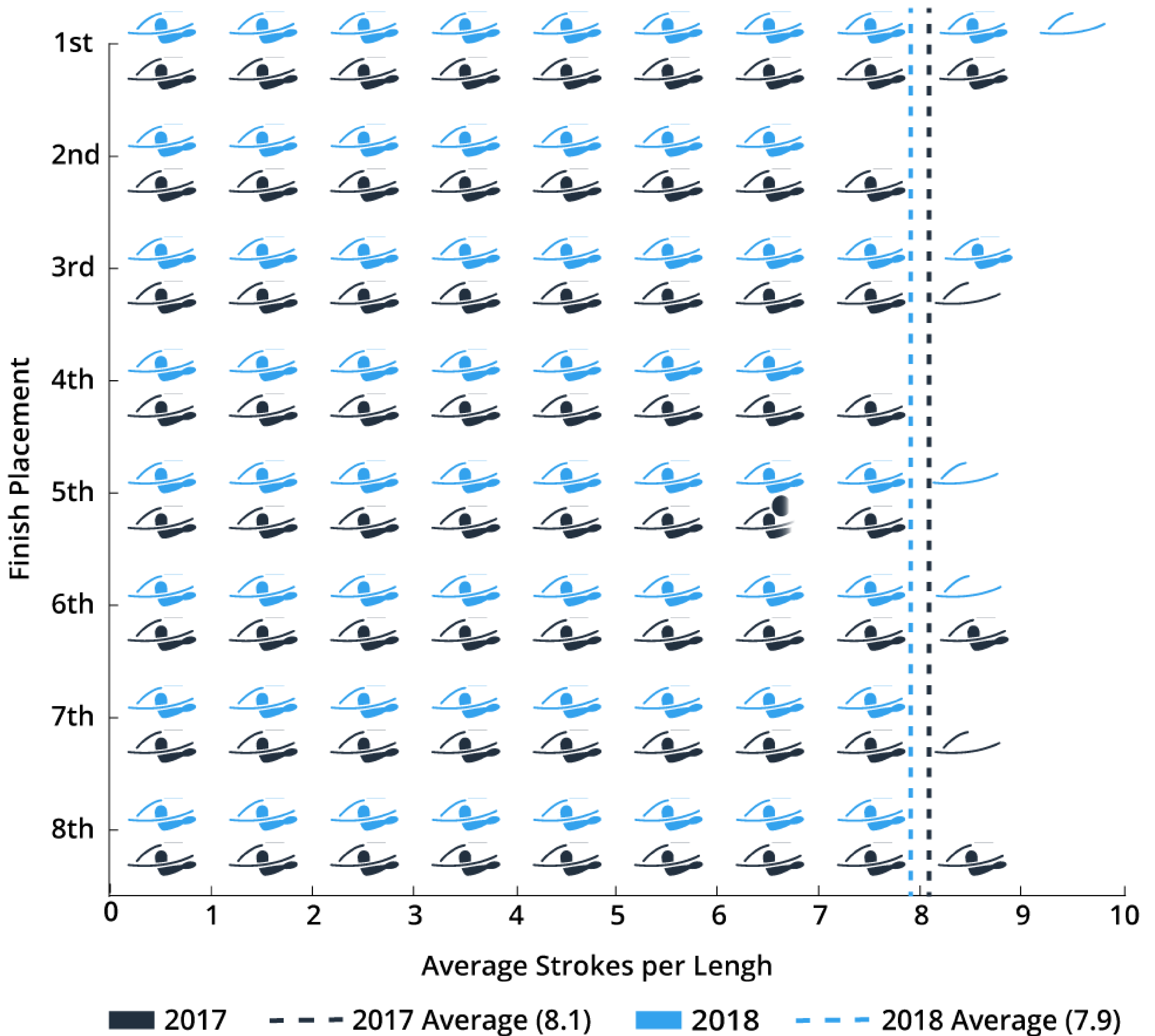
Stroke Rate (Cycle Time):

- Similar to the Men's 100 fly, stroke rates were slower across all splits, as seen in Fig. 2 above
- This slow down included Lilly King, whose stroke rates slowed compared to last year
- Stroke rate changes occurred in the first splits of the race, but the last split remained similar to last year



Women's 100 Breaststroke

Fig 3. Average Stroke Counts per Length



Stroke Count:

- in Fig. 3 above, we saw no significant shift in stroke counts for most swimmers
- Lilly King fit almost a full extra stroke into each of her lengths this year compared to her stroke count last year
- This extra stroke slightly increased the range of stroke counts we saw



Women's 100 Breaststroke

DPS:

- Shortest DPS of the 2018 field pulled 0.1 m longer strokes than in 2017
- Average competitor lengthened their stroke by 0.6%, where middle 2 competitors shorted by 0.6%
- Longest DPS saw basically 0 movement year over year

Stroke Index:

- Overall field relatively stable year over year, with an average increase of 0.2%
- The middle 2 competitors in 2018 increased their efficiency by 0.2
- The range between the top and bottom performer decreased in 2018 by 0.1

Powerful Insights At Your Fingertips

About TritonWear

We are a technology company with competitive swimming and engineering roots in the sports industry at large. We focus on bringing elite sports science to everyone, empowering success through education and innovative technology.

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