

# Predicting Aaron Judge's HR's for 2025

Parker Jackson



#### 2024 Season

- 58 Home Runs (HR)
  - MLB Leader
- 704 Plate Appearances (PA)
  - 7th most in MLB
- HR/PA rate of 8.24%
  - MLB Leader, led next highest by almost 1%





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	<b>Overall Stats</b>
10.8	WAR
158	G
704	PA
180	н
58	HR
144	RBI
10	SB
.322	BA
.458	ОВР
.701	SLG
1.159	OPS
223	OPS+

Stathead Baseball/Baseball Reference

- Monte Carlo Simulation
- Uniform distribution for PA's
  - o 600-700 per season
- Binomial distribution:
  - HR/PA rate (probability)
  - Number of PA's (trials)
- Analytic Solver to run 2500 trials

Simple Totals		
53		
65.72%		
96.88%		

## Breakdown - Home vs. Away

- Home Stats
  - o 31 HR
  - o 341 PA
  - o 9.09% HR/PA
- Away Stats
  - o 27 HR
  - o 363 PA
  - o 7.44% HR/PA

Home/Away Totals		
Mean HR's	53	
Prob > 50 HR's	66.24%	
Prob > 40 HR's	96.80%	

### Breakdown - LHP vs. RHP

- About 75% of PA's are against RHP
  - Uniform Distribution between 70% and 80% for RHP
- vs LHP
  - o 16 HR
  - o 184 PA
  - o 8.70% HR/PA
- vs RHP
  - o 42 HR
  - o 520 PA
  - o 8.08% HR/PA

LHP/RHP Totals		
Mean HR	53	
Prob > 50 HR's	64.88%	
Prob > 40 HR's	96.28%	

- Uses <u>Baseball Savant's Ballpark</u>
   <u>Factors</u> to manipulate HR/PA
   rate
- Park Factors are determined using a 3 year rolling period
  - Tampa Bay and the Athletics are playing at Minor League parks that have limited data
- Uses Yankees' 2025 Schedule
- Expecting 4.45 PA/G

Ballpark Factor Totals		
Mean HR's	59	
Prob of >50	88.00%	
Prob of >40	99.72%	

## Breakdown - Ballpark

Rk.	Team	Venue	Year	Park Factor
1	Rockies	Coors Field	2023-2025	112
2	Red Sox	Fenway Park	2023-2025	105
3	K <sub>C</sub> Royals	Kauffman Stadium	2023-2025	103
4	Reds	Great American Ball Park	2023-2025	103
5	D-backs	Chase Field	2023-2025	103
6	<b>Twins</b>	Target Field	2023-2025	103
7	Marlins	loanDepot park	2023-2025	102
8	<b>ℳ</b> Braves	Truist Park	2023-2025	101
9	<b>Y</b> Yankees	Yankee Stadium	2023-2025	101
10	<b>(7)</b> Nationals	Nationals Park	2023-2025	101

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Simple Totals		LHP/RHP Totals	
Mean HR's	38	Mean HR	40
Prob > 50 HR's	3.10%	Prob > 50 HR's	7.00%
Prob > 40 HR's	36.50%	Prob > 40 HR's	49.60%
Home/Away Totals		Ballpark Factor Totals	
Mean HR's	39	Mean HR's	42
Prob > 50 HR's	4.70%	Prob of >50	9.80%
Prob > 40 HR's	42.90%	Prob of >40	60.00%

- '24 Judge expected to hit ~53 HR's
- '25 Judge is off to a slower start
  - 7 HR
  - o 118 PA
  - o 5.93% HR/PA
  - o 26 G
- Judge is still a top hitter in baseball, just doing damage in other areas than HR's
- I expect Judge to be able to pick up the pace thru the season



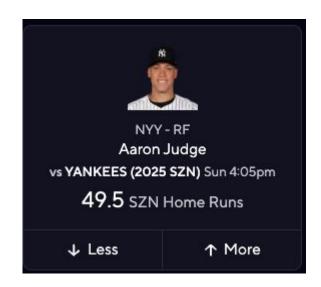


**Aaron Judge** 

Overall Stats		
WAR	2.3	
G	26	
PA	118	
н	40	
HR	7	
RBI	26	
SB	3	
ВА	.408	
ОВР	.508	
SLG	.714	
OPS	1.223	
OPS+	251	

## **Betting**

- PrizePicks line: 49.5 HR's
- <u>FanGraphs</u> predictions:
  - o 49 HR's (preseason)
  - o 38 HR's (current)



How Many Home Runs Will Aaron Judge Have in 2025?



#### Resources

- <u>Baseball-Reference.com</u>
- Baseball Savant
- FanGraphs