Activity 2: When Will the Packers Be at Their Best Again?

PAIRS • **10 MINUTES** • **DESMOS OR A CALCULATOR**

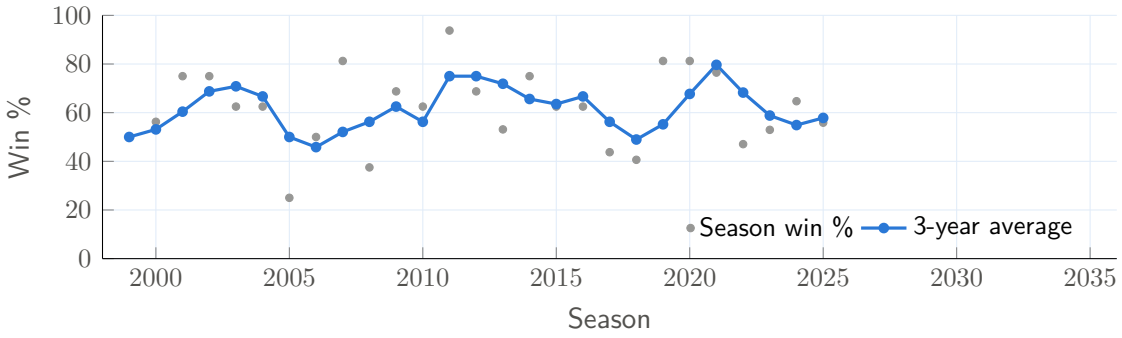
Below are the Green Bay Packers' regular-season records from 1999 to 2025. **Win %** is wins divided by games (a tie counts as half a win). The **3-year average** is the average win % of that season and the two seasons before it. I believe the three year average may make things easier to analyze — feel free to disagree!

Scan the QR code to open the data in Desmos.

Link: `desmos.com/calculator/5olx09tryv`

Season	W–L–T	Win %	3-yr avg
1999	8–8–0	50.0	50.0
2000	9–7–0	56.3	53.1
2001	12–4–0	75.0	60.4
2002	12–4–0	75.0	68.8
2003	10–6–0	62.5	70.8
2004	10–6–0	62.5	66.7
2005	4–12–0	25.0	50.0
2006	8–8–0	50.0	45.8
2007	13–3–0	81.3	52.1
2008	6–10–0	37.5	56.3
2009	11–5–0	68.8	62.5
2010	10–6–0	62.5	56.3
2011	15–1–0	93.8	75.0
2012	11–5–0	68.8	75.0

Season	W–L–T	Win %	3-yr avg
2013	8–7–1	53.1	71.9
2014	12–4–0	75.0	65.6
2015	10–6–0	62.5	63.5
2016	10–6–0	62.5	66.7
2017	7–9–0	43.8	56.3
2018	6–9–1	40.6	49.0
2019	13–3–0	81.3	55.2
2020	13–3–0	81.3	67.7
2021	13–4–0	76.5	79.7
2022	8–9–0	47.1	68.3
2023	9–8–0	52.9	58.8
2024	11–6–0	64.7	54.9
2025	9–7–1	55.9	57.8



Source: nflverse, a public football data archive; regular seasons 1999–2025. The axis runs to 2036 so you can sketch your prediction.

STEP 1 What do you notice?

Look at the 3-year averages. Do you see cycles? About how many seasons from one high point to the next?

STEP 2 What model would you pick for this? Why?

☐ Sine / cosine ☐ Linear ☐ Quadratic ☐ Other: _____

Why that one? Is there a reason a football team would go in cycles?

STEP 3 Find the best fit for your model.

Will you fit the season win % or the 3-year averages? Write your equation, and say what each number means (period, amplitude, and so on).

Equation: _____

STEP 4 When will the Packers be at their best again?

What does "at their best" mean in your model? How would you find it?

My prediction: the Packers' next peak is the _____ season, with a win % of about _____.

STEP 5 How much do you trust it?

Compare with another pair. How far apart are your predictions? What could break the cycle?

IF YOU FINISH EARLY

1. We averaged over 3 seasons. What happens if you average over 2 seasons instead? 5? How would you decide how long to average over?
2. Should long-term historical trends be factored in, or only recent seasons? What are some other models you could use?