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Global Temperatures and...Baseball?

A recent tweet by a public official declaring that record-breaking cold in New York City over Thanksgiving demonstrated that our climate isn't actually warming prompted me to contemplate whether the general public understands the significance of long-term trends and the pitfalls in drawing conclusions from one data point. I think people understand this concept quite well. As discussed in my March column (<https://doi.org/10.5670/oceanog.2018.100>), people use math and science all of the time without realizing it.

For fun, I took a shot at using baseball statistics as a possible way to help a broad audience interpret a plot of long-term increases in global temperature. Baseball is perfect subject to use—at least in the United States. Its fans are famous for analyzing everything and anything about the game and its players. Numbers, articles about the numbers, and articles about the articles about the numbers abound on the Internet. It was simple to find and then plot home runs for each year since 1920. For readers who are baseball aficionados, I'll mention that the graph begins at 1920 because that was the year the spitball (which suppressed offense) was outlawed and just after the so-called “dead-ball era” concluded. I didn't want to skew the overall average number of home runs hit. And, yes, the total includes both American and National Leagues, even though they weren't using the same baseball until 1934.

I got lucky in my choice for this attempted analogy. [Figure 1](#) clearly shows a long-term increase in the number of home runs hit per year compared to the average from 1920–2018¹. There were brief periods of offensive decline (pitchers dominated in the 1960s) and some extreme outlier years of offensive futility (most famously 1968), but the long-term trend toward more power hitting is undeniable. Indeed, the home run data plot in [Figure 1](#) somewhat resembles the plot of yearly global surface temperature from 1900–2017 compared to the 1981–2010 average ([Figure 2](#)).

Even as increasingly severe wildfires and hurricanes illuminate the realities of climate change, scientists still struggle in public debates—not to mention cable television wars—perhaps because we are not breaking down the complex climate issue into simple enough bits and pieces that the public can more easily grasp. Tangible, everyday analogies for different important ocean sciences and related topics might resonate with the public. Perhaps if our community were to compile and share talking points that work for audiences during public talks, we would all benefit. TOS would be happy to post on our website any notes and graphics you might submit for all to use. Consistent with the international nature of our community, analogies from other sports are welcome. Soccer—or should I say football—anyone?

Ellen S. Kappel

Ellen S. Kappel, Editor

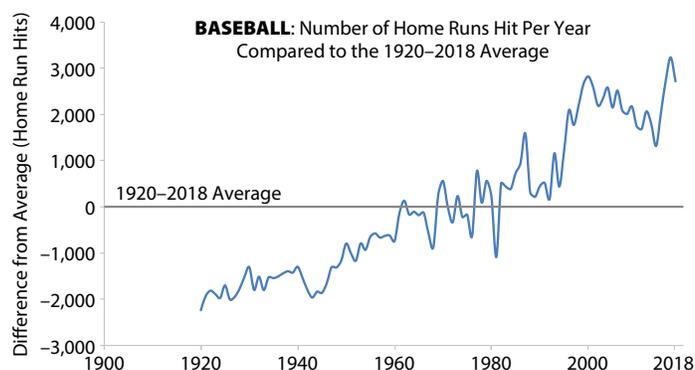


FIGURE 1. Home runs per year as compared to the 1920–2018 average. Data from the Baseball Almanac: <http://www.baseball-almanac.com/hitting/hihhr6.shtml>.

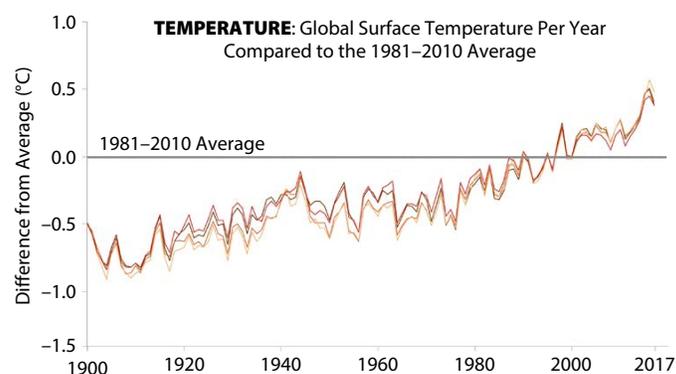


FIGURE 2. Yearly global surface temperature from 1900–2017 compared to the 1981–2010 average. The different colors represent different research groups' analysis of the historical temperature record. Modified from <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>.

¹Readers who are curious as to why there is an increasing trend in the number of home runs hit over time have their pick of theories. Some writers believe the uptick in home runs post-2015 is due to a change in the composition and construction of the baseball, according to Ben Lindbergh and Mitchel Lichtman of the Ringer (<https://www.theringer.com/2017/6/14/16044264/2017-mlb-home-run-spike-juiced-ball-testing-reveal-155cd21108bc>). At the same time, batters who joined the so-called “launch angle revolution” adopted uppercut swings that generate greater power, often at the cost of reducing batting average and increasing strikeouts (https://www.washingtonpost.com/graphics/sports/mlb-launch-angles-story/?utm_term=.bf1cc76d6013).