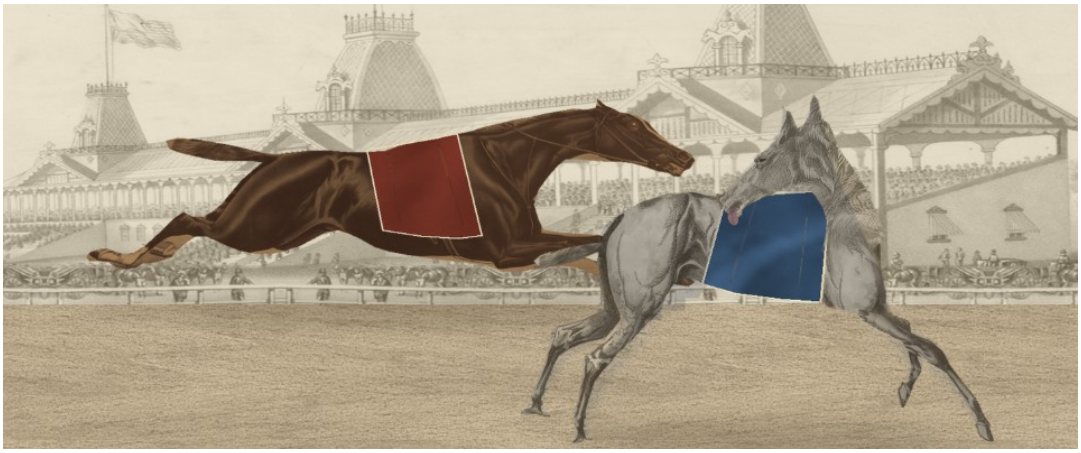


The race is on, and 2026 is about to bolt past the nag (2024).

Horse Race Update

20 November 2026

James Hansen, Pushker Kharecha, Dylan Morgan and Jasen Vest

The year 2026 gained two lengths (0.2°C ×1 month) in October in its notorious race[1,2] with 2024 for the title of hottest year and 2026 will blow past the collapsing nag in the last half of November in the GISS temperature index, which combines observations of SST (sea surface temperature) over the ocean with SAT (surface air temperature) over land. In the Copernicus temperature index, which uses a weather model to combine various data sets via a "reanalysis," the race finish will be more interesting. The race should not distract attention from implications of unprecedented global warming acceleration.

The cumulative 2026 global temperature anomaly in the GISS analysis through October (Fig. 1) has not quite caught 2024 (trails by 1.5 lengths), but it will surge into the lead when the November data are counted. That is assured by unprecedented SSTs for this time of year (Fig. 2). On the other hand, the Copernicus analysis (Fig. 3) places 2026 so far behind 2024 that they assess 2026 has only a 20% chance of being the warmest year.[3] Given those payoff odds, you should probably take the wager for 2026 – it's likely to be a photo finish in the Copernicus analysis.

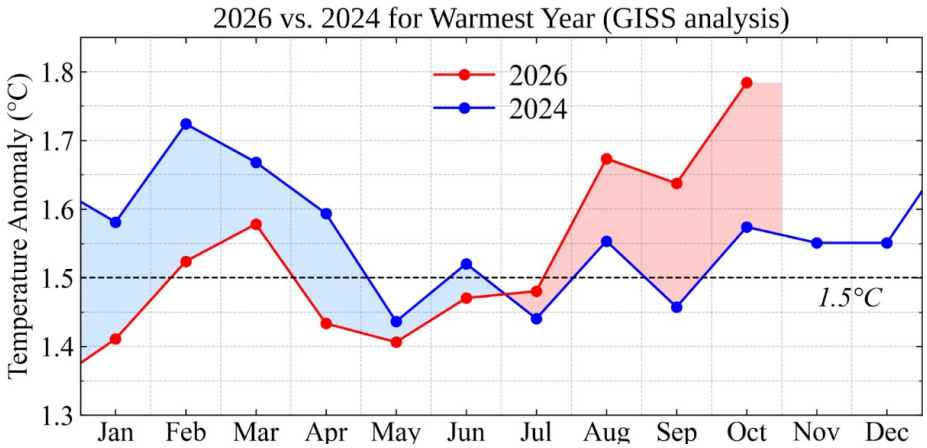


Fig. 1. Global temperature anomaly in GISS analysis.[4]

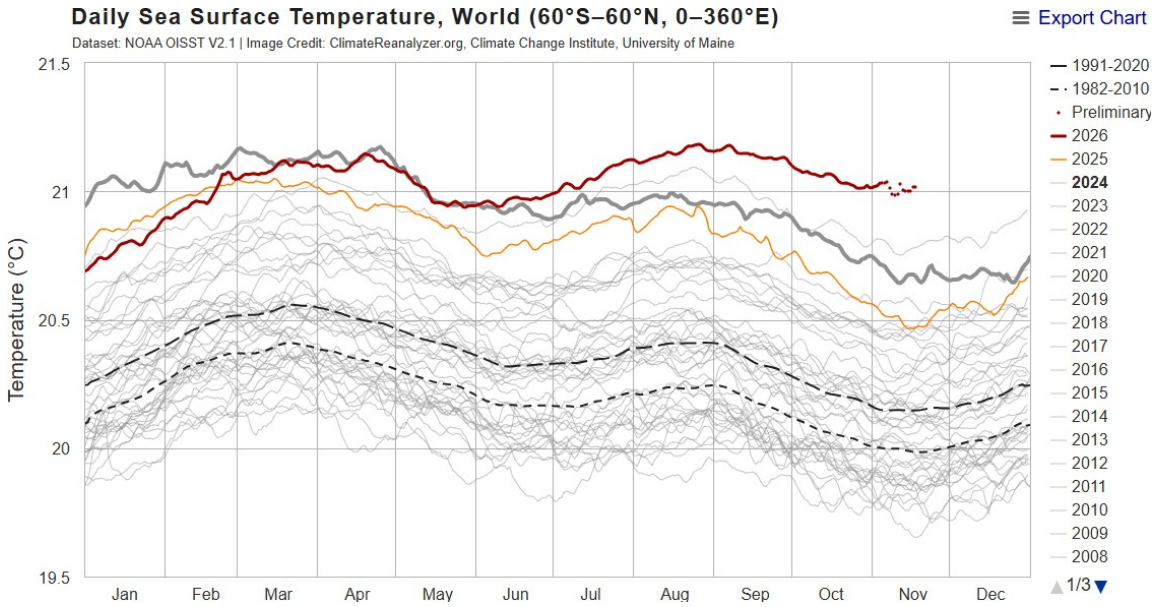


Fig. 2. NOAA global (60°S-60°) SST (OISST v2.1). Red curve is 2026, heavy grey is 2024. Image Credit: ClimateReanalyzer.org, Climate Change Institute, University of Maine.

Copernicus temperatures are estimates of SAT (temperature at 2-meter height) over land and ocean in ECMWF's ERA5 reanalysis, which assimilates data from weather stations, satellites, aircraft, weather balloon, ships, and buoys into a numerical weather model, as described in a detailed methodology. The GISS and Copernicus analyses are in close agreement for long-term temperature change (Fig. 4). The main difference between the analyses for 1950-present is that Copernicus is slightly (~0.05°C) warmer in the past 10 years (violet curve in Fig. 4). This may be a result of reduction of sea ice area that began with the 2015-16 El Nino and continued (Fig. 5; note the inversion of the sea ice extent scale on the righthand axis). In a region where sea ice disappears, the SAT change is much larger than the SST change, so increase of the GISS temperature index is expected to be smaller than in Copernicus global SAT. We will show a more detailed analysis of the differences in a future communication. Sea ice area change does not explain the smaller Copernicus warming in early 2026. However, that difference is a small matter, likely of interest only to people who have made a wager on whether 2026 will be the hottest year.

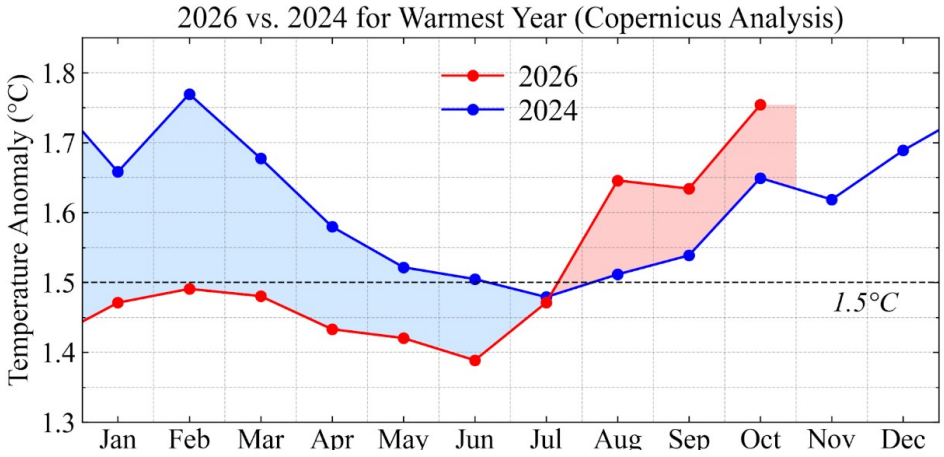


Fig. 3. Global temperature anomaly in Copernicus analysis.

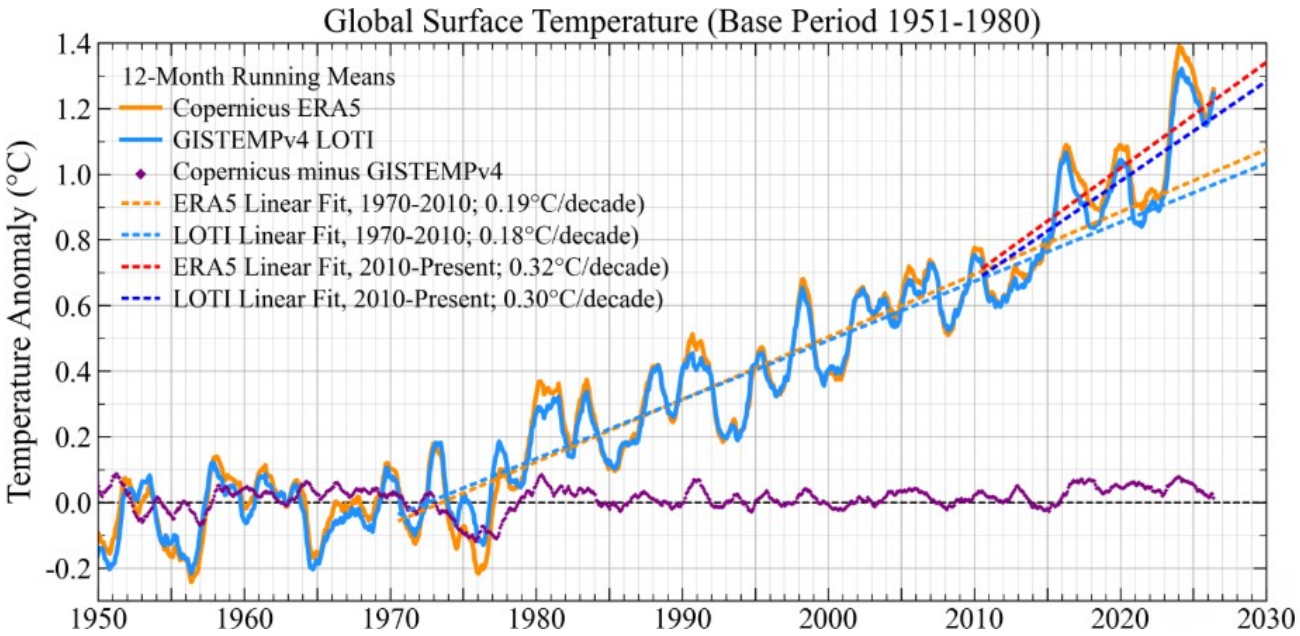


Fig. 4. Global temperature anomalies in GISS and Copernicus analyses relative to 1951-80?

Important points are that all analyses are in close agreement on the strong global warming since preindustrial time (now at least ~1.5°C), the acceleration after 1970 to a warming rate of almost 0.2°C per decade, and then further acceleration after 2010 or 2015. The present extreme El Nino is likely to yield important inferences about climate feedbacks, climate sensitivity, and practical climate impacts on society, but we defer discussion until a little more data accumulate.

We have updated the data and graphs on our website,[5] which is currently under construction. We are on Substack[6].

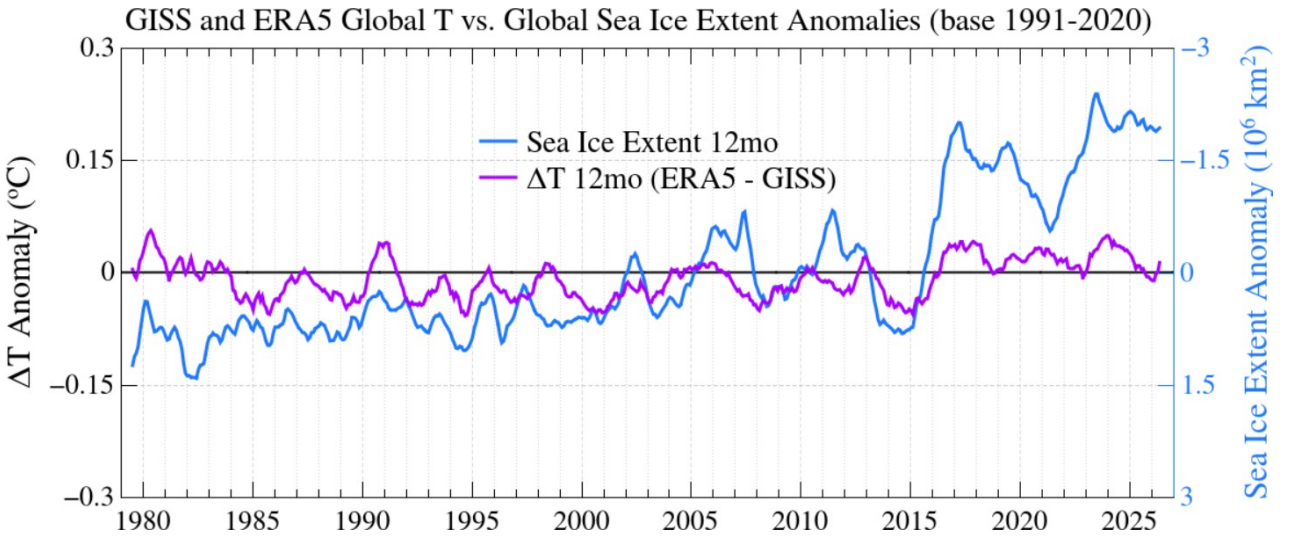


Fig. 5. Global temperature and sea ice extent anomalies relative to 1991-2020.

[1] Hansen J, Kharecha P, Morgan D, Vest J, 2026 on track for warmest year, 30 April 2026.
[2] Hansen J, Kharecha P, Morgan D, Vest J, Yes, 2026 is on track to be the hottest year, 12 June 2026.
[3] Thomet L, 2026 'most likely' to be second hottest year on record: EU monitor, 6 November 2026; text from Andrew Zinin's article in **Science X** based on the Copernicus Climate Change Service monthly bulletin is available here.
[4] Temperature is from Goddard Institute for Space Studies analysis described by Lenssen NJL, Schmidt G, Hendrickson M *et al*. A NASA GISTEMPv4 Observational Uncertainty Ensemble, *J Geophys Res Atmos* **129**, e2023JD040179, 2024 and by Hansen J, Ruedy R, Sato M *et al.* Global surface temperature change, *Rev Geophys* **48**, RG4004, 2010.
[5] Our communications (posts) and data are available now via Hansen's website while we continue to develop and populate our websites and data pages. Figures in communications and papers that remain of current interest will be updated at appropriate intervals, usually monthly, with the most recent date of update indicated on the website.
[6] https://jimehansen.substack.com/