

Estimating the Date of Earth Overshoot Day 2026

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1. Overview: Earth Overshoot Day Calculation

Earth Overshoot Day is the day of the year on which humanity's demand on nature exceeds the Earth's annual biological capacity to regenerate. **In 2026, Earth Overshoot Day falls on July 30th**, meaning that between January 1st and July 30th, humanity's demand for biological regeneration is equivalent to the planet's entire annual regeneration.

Last year's Earth Overshoot Day was officially marked on July 24th, 2025. This shift reflects both **revisions to underlying data** and **actual year-to-year trends**. Updated input data, particularly on how much carbon is absorbed by the oceans, suggests that ecological overshoot may be slightly smaller than previously estimated. On its own, this revision would have delayed Earth Overshoot Day by about eight days.

At the same time, compared to last year, global overshoot has slightly increased, which moves the date about two days earlier. The combined effect of these two factors results in a net shift of six days later than last year's official date.

Global ecological overshoot is now higher than at any point in human history. This may seem counterintuitive when comparing last year's and this year's official Earth Overshoot Day dates. However, the apparent improvement is misleading. The underlying upward trend in overshoot is partly obscured by revisions to the public datasets used for assembling the National Footprint and Biocapacity Accounts.

2. The Need for Nowcasting

The [National Footprint and Biocapacity Accounts](#) (NFBA) are built on official UN datasets. However, this data comes with a time delay. The most recently reported UN data typically has a time lag of about 3 to 4 years. As a result, the National Footprint and Biocapacity Accounts reports also have a lag time.

Earth Overshoot Day is an estimate of the current year's consumption, therefore, nowcasting is needed to provide an estimate of where humanity's [Ecological Footprint](#) stands compared to the planet's [biocapacity](#). To generate results for the World's Ecological Footprint and biocapacity, Global Footprint Network uses the latest data from the NFBA and incorporates input data from additional sources to estimate the World's Ecological Footprint and biocapacity for the current year.

Nowcasting is distinct from forecasting. While forecasting uses models to extrapolate data into the future, based on assumptions of how the forecasted item operated in the past, nowcasting uses actual data associated with the nowcasted years. Generally, this is proxy data, such as yield fluctuations in some crops to estimate fluctuation in entire harvest, car usage, electricity intensity, and change in housing stock. Such proxy data can be used to estimate relative changes in Footprint of biocapacity related resource aspects and may be superimposed over the more complete NFBA that end 4 years prior.

Timely estimates are needed by decision makers. Therefore, nowcasting is common for economic indicators like GDP, which in some cases are reported quarterly. Although Ecological Footprint and biocapacity do not shift rapidly and historical trends are informative, a 4-year time lag may be too long for decision makers as these results may not reflect how their resource consumption and their decisions impacted the trends. Thanks to the nowcasted estimates, the COVID-lockdown effect can now be seen in the trajectories of many countries.

3. Methodological Overview: Accounting for Biocapacity

The Ecological Footprint's underlying research question is straightforward: How much mutually exclusive, biologically productive area¹ is necessary to renew people's demand for nature's products and services? The demands on nature that compete for biocapacity include:

- food, fiber, and timber
- space for roads and structures,
- energy production (from hydropower to biomass), and
- waste absorption, incl. CO₂ from fossil fuel or cement production.

Both biocapacity and Ecological Footprint can be tracked and compared against each other, based on two simple principles:

- (1) **Commensurability:** by scaling these areas proportional to their biological productivity, they become commensurable.

¹ Before adding up the areas, they are first productivity adjusted, hence measured in global hectares. This makes biocapacity and Footprints comparable across time and space, since the areas are weighed proportionally to their biocapacity.

- (2) **Additionality:** all the competing demands on productive surfaces, i.e., the surfaces that contain the planet’s biocapacity, can be added up.

The measurement unit used is “global hectare,” which is a biologically productive hectare with world-average productivity. More details about the principles and mechanics of this accounting system are documented extensively in [this literature](#) and on Global Footprint Network’s [website](#). An overview of the principles is available in open-access papers in [Sustainability](#) and in [Nature Sustainability](#), as well as the [supplementary information](#) of the latter.

Calculations for countries and for the world are done through the National Footprint and Biocapacity Accounts, based on up to 15,000 data points per country per year.

4. Starting Point: National Footprint and Biocapacity Accounts

Nowcasting is an extension of the latest available [National Footprint and Biocapacity Accounts](#) (2026 edition) including both:

- the latest full results (1961-2023) based on a full set of UN data, and
- estimates (2024-2026) based on incomplete data, non-UN data, and extrapolations.

Here we explain how we estimated 2026 results for the world.

National Footprint and Biocapacity Accounts are comprehensive biophysical balance sheets that compare countries’ demand on nature with what the planet or that country’s ecosystems can renew. They build on the premise that, materially, the most limiting factor for the human economy is our planet’s ecosystems’ capacity (its “biocapacity”). They inform us about every country’s unique sustainability challenges, including climate change and resource constraints.

Recognizing the overarching biological constraints to human metabolisms, these accounts focus on tracking a country’s material demands (Ecological Footprint, red line in figure below), as well as the global demand of humanity.

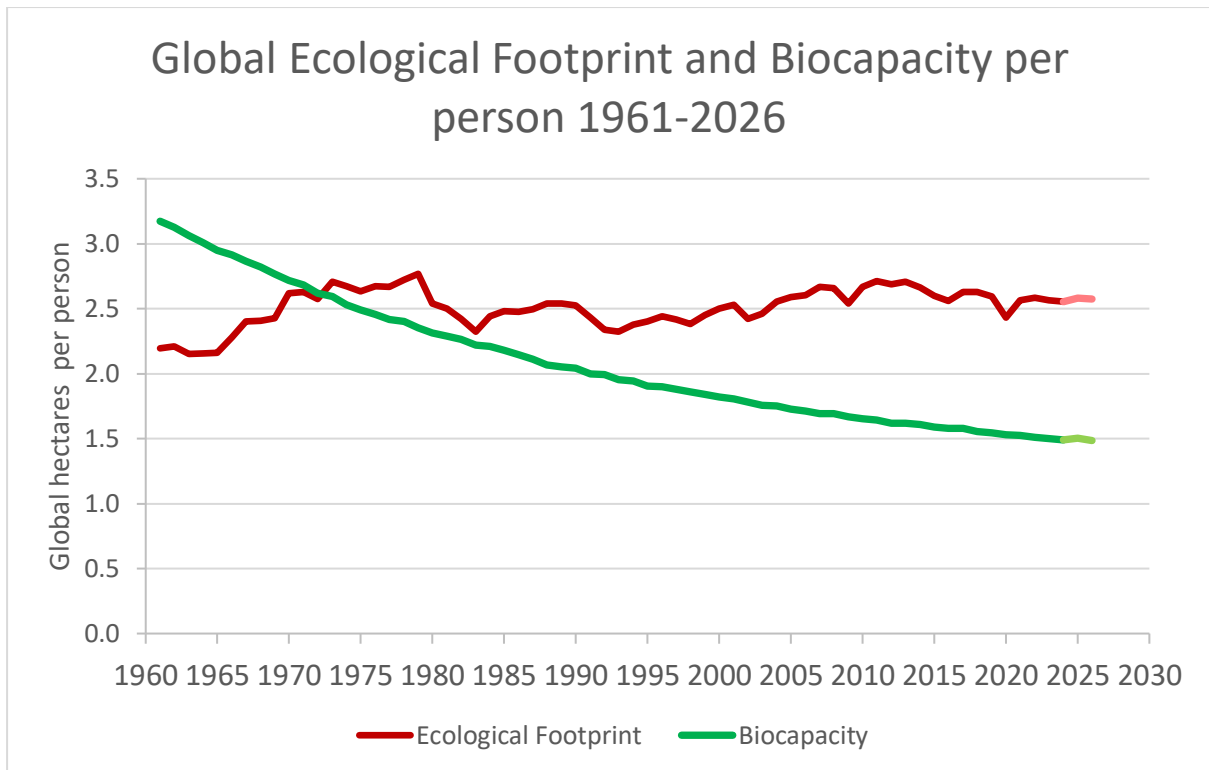


Figure 1 – Humanity’s Ecological Footprint and the planet’s biocapacity in global hectares per person from 1961 to 2026 (2026 edition). The estimated years are in paler color.

That demand is contrasted with how much biologically productive area is available (biocapacity, green line in figure above) within a country, when countries are analyzed or within the world when the global context is more relevant. Figure 1 shows the per person results of the National Footprint and Biocapacity Accounts for the world. The same results can also be depicted as [absolutes](#), i.e. the total Ecological Footprint and total biocapacity of the world. The ratio between Footprint and biocapacity shown is the same for both perspectives.

While Footprint and biocapacity assessments are possible at any scale, National Footprint and Biocapacity Accounts are a useful reference point as they are based on data from UN statistics as well as on clear accounting principles.²

The accounts have been published and improved annually since 1997. They have also been [tested by over ten national government agencies](#).

² National Footprint and Biocapacity Accounts are the reference point for all other Footprint analyses at other scales, down to the product level. Footprint standards (www.footprintstandards.org) provide guidance on how to make assessments at any scale consistent.

The mechanics of the accounts and the results they produce have been confirmed. For instance, both the French and the Swiss government reviews reproduced the results within 3%.

As our priority is to emphasize the impartiality and transparency of the accounts, as of 2019 Global Footprint Network has established, together with [York University](#), a new organization dedicated to the maintenance, update, and further improvement of the National Footprint and Biocapacity Accounts: the “[Footprint Data Foundation](#)”. The [new institutional](#) arrangement for producing the accounts is governed through an independent board to enable neutrality and scientific rigor.

Results of the latest National Footprint and Biocapacity Accounts are available on the open data platform at data.footprintnetwork.org, as well as through a downloadable spreadsheet workbook ([public data package](#)). The 2026 edition is the latest available edition and was launched on April 22, 2026 (Earth Day). The complete dataset runs through 2023, with extended estimates reaching into 2025. The 2027 edition, again produced by York University for FoDaFo, is scheduled to be launched again on Earth Day 2027 (April 22).

The 2026 edition [included a number of updates](#) compared to prior editions:

- **Built-up Area:** Built-up footprint and biocapacity calculations were upgraded for over 220 countries by integrating data from the Global Human Settlements Layer to more accurately map urban centres.
- **Carbon in Traded Products:** The carbon footprint of traded goods was improved for the final years of national timelines by using IMF and World Bank statistics to extend UN Comtrade data, refining national consumption emission metrics.
- **Traded Fish Products:** Fish trade footprints were improved by updating commodity codes to align with the UN FAO Fishstat database and refining how unreported global and domestic catches from the *Sea Around Us* project are accounted for in trade.
- **Traded Forest Products:** Forest product footprints were enhanced by incorporating additional FAOSTAT commodities—including recovered paper and fibre pulp—and reconciling historical timeline gaps without altering domestic harvest data.
- **Carbon Footprint & Ocean Sink:** The carbon footprint was updated using the *Global Carbon Budget 2025*, which increased the estimated global ocean carbon sink since 1961, thereby

reducing the calculated forest carbon uptake required to offset emissions.

Updates to the 2026 edition are documented in the [release notes](#). One major change is that the Global Carbon Budget reports increased sequestration for oceans, leading to a decrease in global Ecological Footprint estimates in the 2026 edition for the entire time-series.

As a result, the recalculated Earth Overshoot Day for 2025, according to the new edition, shifts the date 8 days later.

5. Nowcasting: Extending the Trends of the National Footprint and Biocapacity Accounts

To determine Earth Overshoot Day of a given year, we calculate the ratio between Earth's biocapacity and its Ecological Footprint of that year. To estimate this year's date, we use two steps:

- First, we started with the latest National Footprint and Biocapacity Accounts (2025 edition) reaching to 2022. As explained above, due to revisions in historical data sets, this shift in editions moves the baseline for 2024 to 7 days earlier.
- Second, we estimated world results for 2023 -2025 to calculate this year's date for Earth Overshoot Day. This shows that the actual changes in Footprint and biocapacity from 2024-2025 moved Earth Overshoot Day 22 hours (or about 1 day) earlier.

Therefore, due to these combined changes, Earth Overshoot Day 2026 is 2 - 8 days = **6 days** later than the one marked in 2025. Hence it falls on July 30, 2026.

Below we explain in more detail how the 2024-2026 nowcast was calculated.

6. Nowcast results for the world: 2024-2026

The Carbon Footprint nowcast is based on CO₂ emissions data from Carbon Monitor³ and the Global Carbon Project (GCP).

From 2024-2025, Global Carbon Budget reports that fossil emissions increased by 1.1%. For the 2025-2026, nowcasts are based on data from Carbon Monitor, which estimates that 0.8% increase in carbon emissions when comparing the respective periods of January 1st through February 28st. We assume this % change is consistent for the entire year. (Note: Since the Strait of Hormoz just closed around that date, this simple assumption may not hold. But given multiple opposing effects such as reduction in oil consumption due to price hikes, longer and more land-based transportation to compensate for the closure of the Strait, shifts to more carbon intensive fuels to compensate for the lack of oil etc., it is difficult to conclude even directionally how this closure might affect global carbon emissions).

Carbon sequestration data from GCP, which includes land-use change emissions, ocean sink, land sink, and cement carbonation sink, is available until the year 2024. For 2025 and 2026 we assume that the data maintains the trajectory established since 2000, with an average increase in the carbon absorption of CO₂ emissions by 0.5%.

The combined effect of increased emissions and increased ocean carbon sink led to an increase in our estimations of the global Carbon Footprint, i.e., the carbon component of the total Footprint, by 0.8% from 2025 to 2026.

As a result, we estimate that the total Ecological Footprint for 2026 increases by 0.5 % compared to 2025, while total biocapacity decreases by 0.4% over the same time span⁴. These effects combined increase the 2026 ratio of Footprint to biocapacity by 0.9% compared to the year prior. The resulting decline corresponds to Earth Overshoot Day arriving earlier by an estimated 1 day and 21 hours in 2026 than in 2025.

³ <https://carbonmonitor.org/>

⁴ This number represents the increase over the previous year using 'constant' global hectares, which are defined using data from the latest year. Because global hectares as a unit represent the productivity of a bioproductive hectare on earth with average productivity, any increase in world productivity is mirrored by a growth in the amount of productivity represented by a single global hectare. This means that if the value of a global hectare is recalculated for each year, world biocapacity – as measured by global hectares – should be constant.

Note that all these estimates for 2024-2026 can change in the future as more actual data becomes available. Also, as science and data collection improve, it is not uncommon for UN and para-UN agencies to revise their historical data sets across the entire time series.

Relevant references

- Lo, K., Basnet, N., Miller, E., Srikanthalingam, B., Foley, B., Van Berkum, J. L., Long, A.H., Toneva, P., Ermina, M., Klinkenberg, C. 2026. National Ecological Footprint and Biocapacity Accounts, Edition 2026 (1961-2025). Results and metadata version 1.0. Produced for Footprint Data Foundation by researchers at York University and the University of Iceland. <https://fodafo.org/data/>
- Lo, K., Basnet, N., Miller, E., Srikanthalingam, B., Foley, B., Van Berkum, J. L., Long, A.H., Toneva, P., Ermina, M., Klinkenberg, C. 2026. Release Notes: National Ecological Footprint and Biocapacity Accounts, 2026 Edition https://footprint.info.yorku.ca/files/2026/04/NEFBA_ReleaseNotes.pdf?x92789
- Video introduction to the National Footprint and Biocapacity Accounts, including its underlying method: www.youtube.com/watch?v=T5M3MiPFW4 (2.5 min).
- A more general introduction to the concepts is provided in the book [Ecological Footprint: Managing our Biocapacity Budget](#).
- Ecological Footprint Results for countries: data.footprintnetwork.org
- The basics on the accounting method, including a [guidebook](#) on the National Footprint and Biocapacity Accounts and a detailed [paper on the calculation method](#) are provided here: www.footprintnetwork.org/resources/data/
- Accounting Method and recent improvements in the accounting method: www.mdpi.com/2079-9276/7/3/58 (*Ecological Footprint Accounting for Countries: Updates and Results of the National Footprint Accounts, 2012–2018*)
- A free click-through license gives you access to a sample workbook (for Hungary 2014) www.footprintnetwork.org/licenses/workbook-learning-license
- A comprehensive workbook with the newest Ecological Footprint and biocapacity contains key results www.footprintnetwork.org/licenses/public-data-package-free
- Limitations and Criticisms: The Ecological Footprint has clear limitations. And criticism drives the scientific process. All sincere criticism is helpful, whether based on misunderstandings, new insights, or flaws in the methodology. Global Footprint Network summarized www.footprintnetwork.org/our-work/ecological-footprint/limitations-and-criticisms/
- Nowcasting the global Ecological Footprint for Earth Overshoot 2022: www.overshootday.org/2022-calculation
- Rationale and interpretation of country level results: www.mdpi.com/2071-1050/11/7/2164/htm (*Defying the Footprint Oracle: Implications of Country Resource Trends*); Section 2 discusses key premises, comparison Footprint to other metrics
- EU [fact sheet on the Ecological Footprint](#) as part of the EC's [Beyond GDP](#) initiative and results for European countries on the [EEA website](#) (last updated in 2020).
- Biodiversity and other Ecological Footprint applications: <https://www.bipindicators.net/indicators/ecological-footprint/>; <https://doi.org/10.1016/j.biocon.2013.10.019> (Ecological Footprint: Implications for biodiversity)

- The new platform for National Footprint and Biocapacity Accounts: FoDaFo.org supported by York University at footprint.info.yorku.ca;
- Short video from 2005 explaining the Footprint concepts in 3 min (old, but still provides an accurate description) www.youtube.com/watch?v=EjyrAHzthTo.