

Original

ANNUAL TEMPERATURE MAPS

For the map of temperature anomalies for 2023, a median of six data sets was used, regridded to the spatial grid of the lowest resolution data sets (NOAAGlobalTemp, and HadCRUT5), which are presented on a 5° latitude by 5° longitude grid. The median is used in preference to the mean to minimize the effect of potential outliers in individual grid cells. The half-range of the data sets provides an indication of the uncertainty. The spread between the data sets is largest at high latitudes and in Central Africa, both regions with sparse data coverage.

GLOBAL MEAN TEMPERATURE ANOMALIES FOR 2023 RELATIVE TO OTHER PERIODS

This table shows global mean temperature anomalies for individual data sets for 2023 relative to four different baselines. The uncertainty indicated for the three modern baselines (1981–2010, 1991–2020 and 1961–1990) are the standard deviations of the available estimates multiplied by 1.645 to represent the 90% uncertainty range.

<i>Period</i>	<i>1850–1900</i>	<i>1981–2010</i>	<i>1991–2020</i>	<i>1961–1990</i>
HadCRUT5	1.44	0.75	0.56	1.09
NOAA GlobalTemp	1.43	0.75	0.55	1.05
GISTEMP	1.44	0.75	0.56	1.07
Berkeley Earth	1.45	0.75	0.57	1.12
ERA5	1.48	0.79	0.60	1.12
JRA-55	1.43	0.74	0.56	1.09
Mean of six datasets	1.45±0.12	0.76±0.03	0.57±0.03	1.09±0.04

The following six data sets were used, including four traditional datasets:

- HadCRUT.5.0.1.0: Morice, C. P.; Kennedy, J. J.; Rayner, N. A. et al. An Updated Assessment of Near-Surface Temperature Change From 1850: The HadCRUT5 Data Set. *Journal of Geophysical Research: Atmospheres* **2021**, *126*, e2019JD032361. <https://doi.org/10.1029/2019JD032361>. HadCRUT.5.0.2.0 data were obtained from <http://www.metoffice.gov.uk/hadobs/hadcrut5> on 17 January 2024 and are © British Crown Copyright, Met Office 2024, provided under an Open Government Licence, <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>.
- NOAA Interim: Vose, R. S.; Huang, B.; Yin, X. et al. Implementing Full Spatial Coverage in NOAA's Global Temperature Analysis. *Geophysical Research Letters* **2021**, *48*, e2020GL090873. <https://doi.org/10.1029/2020GL090873>.
- GISTEMP v4: GISTEMP Team, 2022: *GISS Surface Temperature Analysis (GISTEMP), version 4*. NASA Goddard Institute for Space Studies, <https://data.giss.nasa.gov/gistemp/>. Lenssen, N.; Schmidt, G.; Hansen, J. et al. Improvements in the GISTEMP Uncertainty Model. *Journal of Geophysical Research: Atmospheres* **2019**, *124*, 6307–6326. <https://doi.org/10.1029/2018JD029522>.
- Berkeley Earth: Rohde, R. A.; Hausfather, Z. The Berkeley Earth Land/Ocean Temperature Record. *Earth System Science Data* **2020**, *12*, 3469–3479. <https://doi.org/10.5194/essd-12-3469-2020>.

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2023	[13.7 °C] 1850–1900	[14.3 °C] 1981–2010	[14.5 °C] 1991–2020	[14.0 °C] 1961–1990
HadCRUT5	15.14 °C	15.05 °C	15.06 °C	15.09 °C
NOAA GlobalTemp	15.13 °C	15.05 °C	15.05 °C	15.05 °C
GISTEMP	15.14 °C	15.05 °C	15.06 °C	15.07 °C
Berkeley Earth	15.15 °C	15.05 °C	15.07 °C	15.12 °C
ERA5	15.18 °C	15.09 °C	15.10 °C	15.12 °C
JRA-55	15.13 °C	15.04 °C	15.06 °C	15.09 °C
Mean of six datasets	15.15 °C ±0.12	15.06 ±0.03	15.07 ±0.03	15.09 ±0.04

Globale Absolut-Temperaturen ausgewiesen von: [klimamanifest.ch](http://www.klimamanifest.ch)

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- NOAA Interim: Vose, R. S.; Huang, B.; Yin, X. et al. Implementing Full Spatial Coverage in NOAA's Global Temperature Analysis. *Geophysical Research Letters* **2021**, *48*, e2020GL090873. <https://doi.org/10.1029/2020GL090873>.
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- Lenssen, N.; Schmidt, G.; Hansen, J. et al. Improvements in the GISTEMP Uncertainty Model. *Journal of Geophysical Research: Atmospheres* **2019**, *124*, 6307–6326. <https://doi.org/10.1029/2018JD029522>.
- Berkeley Earth: Rohde, R. A.; Hausfather, Z. The Berkeley Earth Land/Ocean Temperature Record. *Earth System Science Data* **2020**, *12*, 3469–3479. <https://doi.org/10.5194/essd-12-3469-2020>.