

50 Climate Predictions Since 1970: What Was Predicted — and What Actually Happened

A review of major climate predictions, projections, deadlines, and outcomes

Important context: Climate predictions are not all the same. Scientific model projections usually describe what could happen under stated assumptions, often decades into the future. Public statements and headlines sometimes gave much shorter deadlines. This list distinguishes those categories and does not label a long-term projection as a failure simply because its target year has not arrived.

Ratings: CONFIRMED = The observation substantially matches the prediction. CLOSE = The outcome was reasonably close to the prediction. PARTIAL = Some elements occurred, but the prediction was incomplete or overstated. FAILED = The stated deadline or specific outcome did not occur. PENDING = The target date has not arrived or the result cannot yet be determined. UNCERTAIN = The claim is too broad, poorly defined, or dependent on assumptions to rate confidently.

The 50 Predictions

#	Year	Prediction / Projection	Target	Actual Result / Status	Rating
1	1973	Sawyer projected about 0.6°C of global warming from 1969 to 2000.	2000	Observed warming was roughly 0.5–0.6°C over the period, depending on dataset and baseline.	CLOSE
2	1975	Wallace Broecker warned that rising CO ₂ could produce significant global warming.	Long term	Global temperature has risen substantially and greenhouse gases are identified as the dominant cause of recent warming.	CONFIRMED
3	1975	Newsweek's 'Cooling World' discussed possible global cooling and a coming ice age.	Near term	Global cooling did not occur; the article was not a scientific consensus projection.	FAILED
4	1977	Nordhaus modeled future temperature increases from energy use and CO ₂ .	21st century	Observed warming has broadly tracked the range of early energy/climate modeling, although assumptions varied.	CLOSE
5	1981	James Hansen and colleagues projected substantial warming from fossil-fuel CO ₂ .	21st century	Substantial warming occurred; the broad direction and magnitude were reasonably close.	CLOSE
6	1988	Hansen's Scenario B projected continued warming through the 21st century.	21st century	Observed warming has been broadly consistent with Scenario B's general trajectory, though emissions did not exactly follow its assumptions.	CLOSE
7	1989	UNEP official Noel Brown warned entire nations could be wiped out by 2000 from sea-level rise and related impacts.	2000	The predicted near-term catastrophe did not occur.	FAILED
8	1989	A widely reported warning said global warming could threaten agriculture and coastal regions within a decade.	2000	Some impacts occurred, but the extreme 10-year framing was not realized.	FAILED
9	1990	IPCC projected about 1°C warming from	2025	Observed warming was in the	CLOSE

		1990 to 2025 under a business-as-usual scenario.		neighborhood of 0.9–1.0°C above the 1990 level, depending on dataset.	
10	1990	IPCC projected sea-level rise during the 21st century.	2100	Sea level has continued to rise; the 2100 endpoint remains pending.	PENDING
11	1992	UN framework and scientific assessments warned of continuing warming from greenhouse gases.	21st century	Warming continued and greenhouse gas concentrations increased.	CONFIRMED
12	1995	IPCC projected significant 21st-century warming under continued greenhouse-gas emissions.	2100	Warming has occurred as projected in direction; final magnitude is pending.	PENDING
13	1995	IPCC projected continued sea-level rise due to thermal expansion and ice loss.	2100	Sea level is rising and the century-long result is pending.	PENDING
14	1997	Climate assessments projected increased global temperatures with continued emissions.	21st century	Global temperatures increased substantially.	CONFIRMED
15	1998	Climate projections anticipated more frequent heat extremes as the planet warmed.	21st century	Heat extremes have increased in many regions.	CONFIRMED
16	2000	David Viner said British snowfall would become a very rare event and children might not know snow.	Near term	Snow still occurs regularly in Britain; the statement failed as a short-term prediction.	FAILED
17	2001	IPCC projected continued warming and increasing climate impacts under higher emissions.	21st century	Warming and many projected impacts have occurred; final century outcome remains pending.	PARTIAL
18	2004	Pentagon-related climate scenarios warned of severe geopolitical disruption from abrupt climate change.	Near term	The dramatic scenario did not unfold on the proposed timetable.	FAILED
19	2005	Scientists projected continued Arctic sea-ice decline as temperatures rose.	21st century	Arctic sea ice has declined substantially, although year-to-year variability is large.	CONFIRMED
20	2006	Al Gore predicted Kilimanjaro's snows could disappear within a decade.	2016	Snow and ice remained on Kilimanjaro after the deadline.	FAILED
21	2007	Some scientists and officials suggested the Arctic could become nearly ice-free in summer by around 2013–2015.	2013–2015	The Arctic was not ice-free; summer sea ice reached record-low levels but remained substantial.	FAILED
22	2008	NASA scientist James Hansen and others warned of rapid ice-sheet and sea-level risks.	Decades–century	Ice loss and sea-level rise have occurred; precise future magnitude remains uncertain.	PARTIAL
23	2009	Prince Charles said climate change could produce catastrophic consequences within roughly 18 months.	2010–2011	The predicted deadline did not correspond to a global catastrophe.	FAILED
24	2009	Some forecasts expected an ice-free Arctic summer within a few decades.	2030s–2050s	Arctic summer ice has declined, but an ice-free summer has not yet occurred.	PENDING
25	2010	Climate assessments	21st century	Global temperature	CONFIRMED

		projected continued increases in global temperature with rising emissions.		continued upward.	
26	2011	Climate science projected more frequent and intense heat extremes as warming continued.	21st century	Heat extremes have increased in many regions.	CONFIRMED
27	2012	Scientific assessments projected continued Arctic sea-ice loss.	21st century	Arctic sea ice remains far below late-20th-century levels.	CONFIRMED
28	2013	IPCC projected global temperature increases under multiple emissions scenarios.	2100	The warming trajectory is broadly consistent with the scenarios, but the final endpoint is pending.	PENDING
29	2013	IPCC projected continued sea-level rise through 2100.	2100	Sea level is rising; 2100 magnitude remains pending.	PENDING
30	2013	IPCC projected declining Arctic sea ice during the 21st century.	2100	Decline has occurred; the century-long endpoint is pending.	PARTIAL
31	2014	IPCC projected more frequent warm-temperature extremes.	21st century	Observed changes are consistent with this projection.	CONFIRMED
32	2014	IPCC projected increases in heavy precipitation in many regions.	21st century	Heavy precipitation has increased in many regions, though changes vary geographically.	PARTIAL
33	2014	IPCC projected permafrost degradation with continued warming.	21st century	Permafrost has warmed and degraded in many regions.	CONFIRMED
34	2015	Paris Agreement sought to hold warming well below 2°C and pursue 1.5°C.	2100	The target is an agreed policy goal, not a prediction; current warming and emissions make the outcome uncertain.	PENDING
35	2016	Some projections indicated increasingly frequent record-hot years as warming continued.	Following decades	Record-hot years have become increasingly common.	CONFIRMED
36	2017	Climate projections indicated continued global warming if greenhouse-gas emissions remained high.	21st century	Global warming continued.	CONFIRMED
37	2018	IPCC warned that limiting warming to 1.5°C would require rapid emissions reductions.	2030–2050	Global emissions reductions have not yet been sufficient to make the outcome assured.	PENDING
38	2019	UK Met Office forecast 2020 would likely be around 1.11°C above preindustrial levels.	2020	2020 was extremely warm and close to the forecast, depending on dataset and baseline.	CLOSE
39	2019	Scientists projected continued sea-level rise and increasing coastal risks.	Decades–century	Sea level continues to rise; long-term magnitude remains pending.	PENDING
40	2020	Climate models projected continued warming under continued emissions.	2021–2100	Warming continued; long-term endpoint is pending.	CONFIRMED
41	2021	IPCC projected that 1.5°C warming would be reached around the early 2030s under many scenarios.	Early 2030s	As of 2026, the long-term 20-year threshold outcome is still pending.	PENDING
42	2021	IPCC projected more frequent extreme heat	21st century	Observed trends strongly support the	CONFIRMED

		with additional warming.		projection.	
43	2021	IPCC projected continued glacier mass loss under warming.	21st century	Glaciers have continued to lose mass globally.	CONFIRMED
44	2022	IPCC projected increasing climate-related risks with each increment of warming.	21st century	Many observed risks increase with warming, though the severity varies by region.	CONFIRMED
45	2023	Climate projections indicated continued record-breaking warmth as greenhouse gases accumulated.	Near term	2023 became a record-hot year in many datasets, followed by another exceptionally warm period.	CONFIRMED
46	2024	Global temperatures were expected to remain exceptionally high after the 2023 record.	2024	2024 was confirmed as another exceptionally warm year and was around 1.5°C above preindustrial levels on an annual basis in major datasets.	CONFIRMED
47	2024	Some simulations suggested the Arctic could experience its first essentially ice-free day before 2030 under plausible emissions pathways.	Before 2030	No first ice-free day has yet been observed; the prediction remains a simulation-based possibility.	PENDING
48	2025	Climate monitoring showed continued long-term Arctic sea-ice decline.	2025	The 2025 minimum was about 4.60 million km ² , among the lowest on record; the long-term decline continued.	CONFIRMED
49	2025	NOAA reported 2025 as one of the warmest years on record.	2025	NOAA ranked 2025 as the third-warmest year in its record.	CONFIRMED
50	2026	Long-term climate projections continue to show additional warming if greenhouse-gas emissions remain elevated.	21st century	The final outcome remains dependent on future emissions and has not yet occurred.	PENDING

What the Record Shows

The strongest long-term conclusion is that the basic scientific prediction of greenhouse-gas-driven global warming has held up. Temperature has risen substantially since 1970, and many associated trends—such as Arctic sea-ice loss, glacier mass loss, rising sea level, and increasing heat extremes—are consistent with projections.

At the same time, several highly publicized short-term claims were wrong. The 1989 warning that entire nations could be wiped out by 2000, the 2000 prediction that British children might not know snow, the 2006 Kilimanjaro deadline, and several early Arctic ice-free deadlines did not happen as stated.

The biggest caution is time scale. A projection for 2100 cannot fairly be labeled a failure in 2026. Likewise, a model projection under a particular emissions scenario is not a promise that the scenario will occur. Actual emissions, technology, land use, volcanic activity, aerosols, and natural variability all affect the result.

The useful question is therefore not simply 'Were climate predictions right or wrong?' It is: Which predictions were specific enough to test, what assumptions did they use, what deadline did they give, and how closely did observations match the projection?

Selected Sources

- IPCC AR6, Figure 1.9 — historical climate-model projections compared with observations, including early modeling studies and IPCC projections.
- IPCC AR6 Summary for Policymakers, Figure SPM.8 — observed warming and scenario-based future projections.
- NOAA National Centers for Environmental Information — 2025 global climate report; 2025 ranked as the third-warmest year in NOAA's record.
- National Snow and Ice Data Center — 2025 Arctic sea-ice minimum: approximately 4.60 million km²; long-term September sea-ice decline remains substantial.
- Los Angeles Times, 1989 — contemporary reporting documenting the Noel Brown/UNEP warning about possible national-scale impacts by 2000.
- Carbon Brief — retrospective comparisons of historical climate-model predictions with observed warming.

Editorial Note

This article is intended as a historical comparison, not as a claim that every climate projection can be reduced to a simple yes/no test. Predictions and projections depend on assumptions, and different datasets can produce slightly different numerical results. The ratings above are therefore best understood as editorial assessments of how closely a stated claim matched the outcome.