

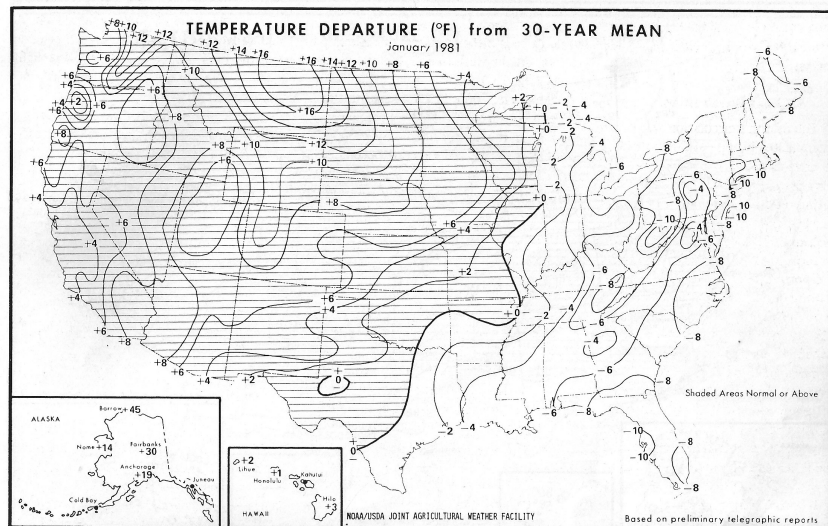
Major surface data issues argue the global warming hypothesis can't be validated

By Joseph D'Aleo, CCM, AMS Fellow

Temperature Measurement Timeline Highlights

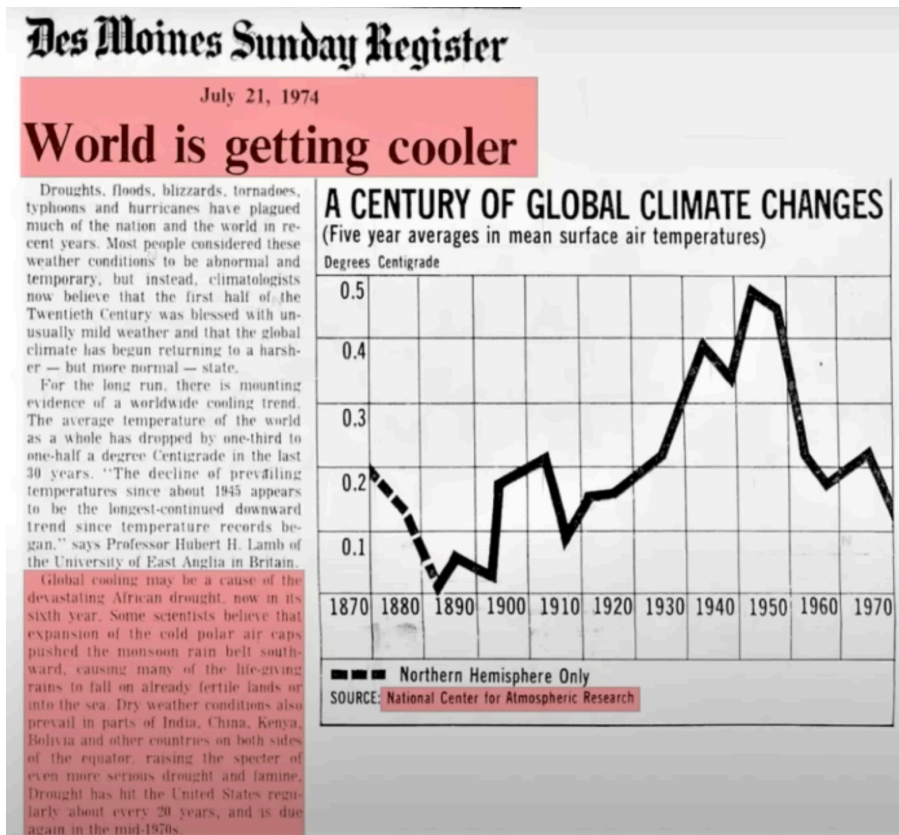
Virtually every month and year we see stories in the once reliable media and from formerly unbiased data centers that proclaim the warmest such period in the entire record back to 1895 or earlier. The following suggests most of the period is model-based guesswork.

Early 1970s - When I was a producer for network weather shows and then taught college weather and climate in the 1970s and later was a co-founder of the cable TV Weather Channel in the 1980s, we accessed local climate data and used it to put into perspective current or forecast conditions and extremes. We referenced studies and stories in the Journals like Monthly Weather Review and monthly weather magazines like Weatherwise that documented monthly and seasonal weather and storms (U.S. temperature and precipitation anomalies, hurricanes, tornadoes, droughts, floods and snowfall) as well as temperature extremes (sub-zero cold in winter and triple digit heat in summer).



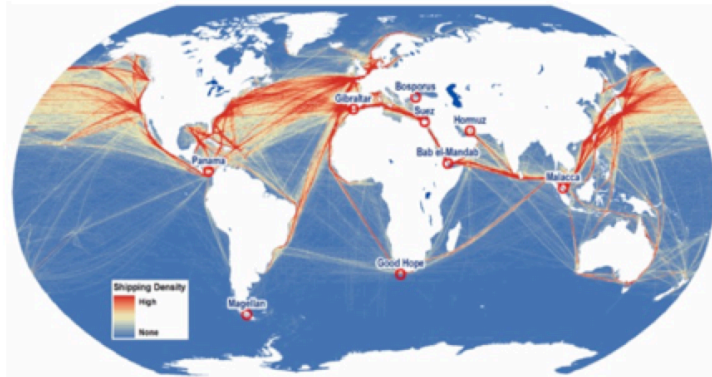
There was no attempt to do an official routine national or global analysis and look for trends. The idea of doing so with any precision was considered daunting as you will see through this timeline.

1974 – National Center Atmospheric Research displayed a **one-time temperature trend estimation** which was limited to the Northern Hemisphere land areas (reliable data on a larger scale and over the ocean was just not readily available or trustworthy). The estimation reported on in the Des Moines Register showed a dramatic warming from the 1800s to around 1940 then a reversal ending in a matching cooling by the late 1970s when even the CIA wrote that scientists thought we might be heading towards a dangerous new ice age. The cooling continued to the end of the 1970s roughly eliminating the nearly 60 years of warming. Warming followed.



1978 - [New York Times](#) reported there was too little temperature data from the Southern Hemisphere to draw any reliable conclusions. The report they referenced was prepared by German, Japanese and American specialists, and appeared in the Dec. 15 issue of Nature, the

British journal. It stated that “Data from the Southern Hemisphere, particularly south of latitude 30 south, are so meager that reliable conclusions are not possible,” the report says. “Ships travel on well-established routes so that vast areas of ocean, are simply not traversed by ships at all, and even those that do, may not return weather data on route.”



Globe is 71% ocean, 81% in the Southern Hemisphere.

1979 - global satellite temperature measurement of the global atmosphere begins at UAH and RSS

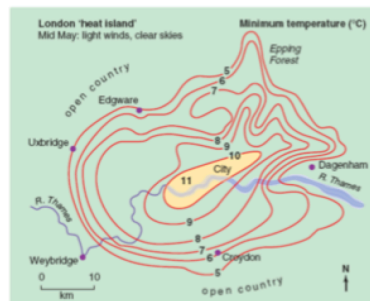
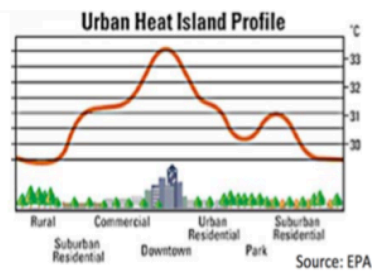
1981 - NASA’s James Hansen et al reported that “Problems in obtaining a global temperature history are due to the uneven station distribution, with the Southern Hemisphere and ocean areas poorly represented,” (Science, 28 August 1981, Volume 213, Number 4511([link](#)))

1989 - At that time, in response to the need for an accurate, unbiased, modern historical climate record for the United States, personnel at the Global Change Research Program of the U.S. Department of Energy and at NCEI defined a network of 1219 stations in the contiguous United States whose observation would comprise a key baseline dataset for monitoring U.S. climate. Since then, the USHCN dataset has been revised several times (e.g., Karl et al., 1990; Easterling et al., 1996; Menne et al. 2009). The three dataset releases described in Quinlan et al. 1987, Karl et al., 1990 and Easterling et al., 1996 are now referred to as the USHCN version 1 datasets.

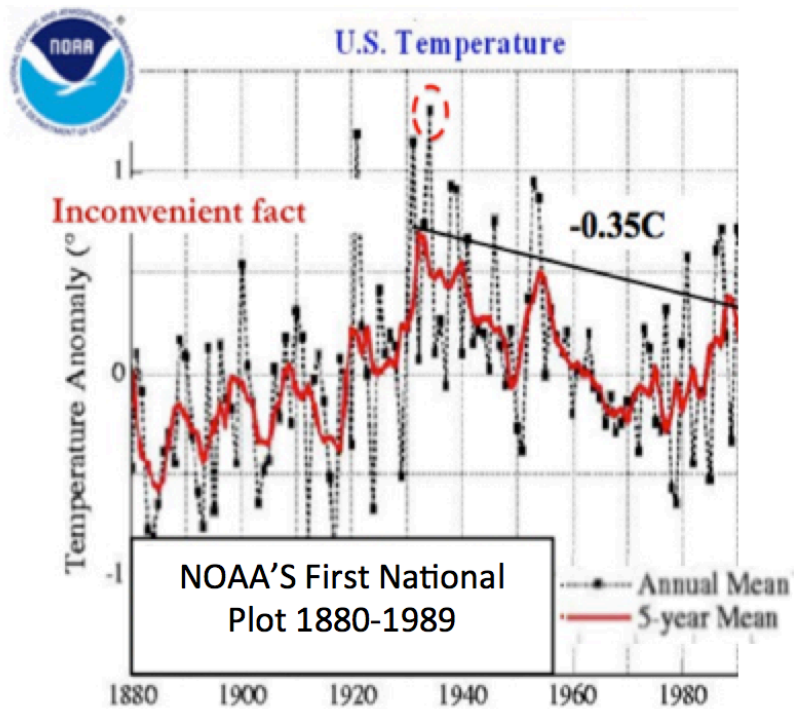
The documented changes that were addressed include changes the time of observation (Karl et al. 1986), station moves, and instrument changes

(Karl and Williams, 1987; Quayle et al., 1991). Apparent urbanization effects were also addressed in version 1 with a specific urban bias correction (Karl et al. 1988)

Urban Heat Island Effect
In cities, vertical walls, steel and concrete absorb the sun's heat and are slow to cool at night. More of the world is urbanized. Cities grow around airports where we measure temperatures



NOAA's first climate chief Tom Karl wrote with Kukla and Gavin in a 1986 paper on [Urban Warming](#): *"MeteoSecular trends of surface air temperature computed predominantly from [urban] station data are likely to have a serious warm bias... The average difference between trends [urban siting vs. rural] amounts to an annual warming rate of 0.34°C/decade (3.4C/century) ... The reason why the warming rate is considerably higher [may be] that the rate may have increased after the 1950s, commensurate with the large recent growth in and around airports. Our [results](#) and those of others show that the urban growth inhomogeneity is serious and must be taken into account when assessing the reliability of temperature records."*



1989 - The NY Times reported the US Data failed to show warming trend predicted by Hansen in 1980.

The New York Times **U.S.**

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U.S. Data Since 1895 Fail To Show Warming Trend

By PHILIP SHABECOFF, Special to the New York Times
Published January 26, 1989

Correction Appended

WASHINGTON, Jan. 25— After examining climate data extending back nearly 100 years, a team of Government scientists has concluded that there has been no significant change in average temperatures or rainfall in the United States over that entire period.

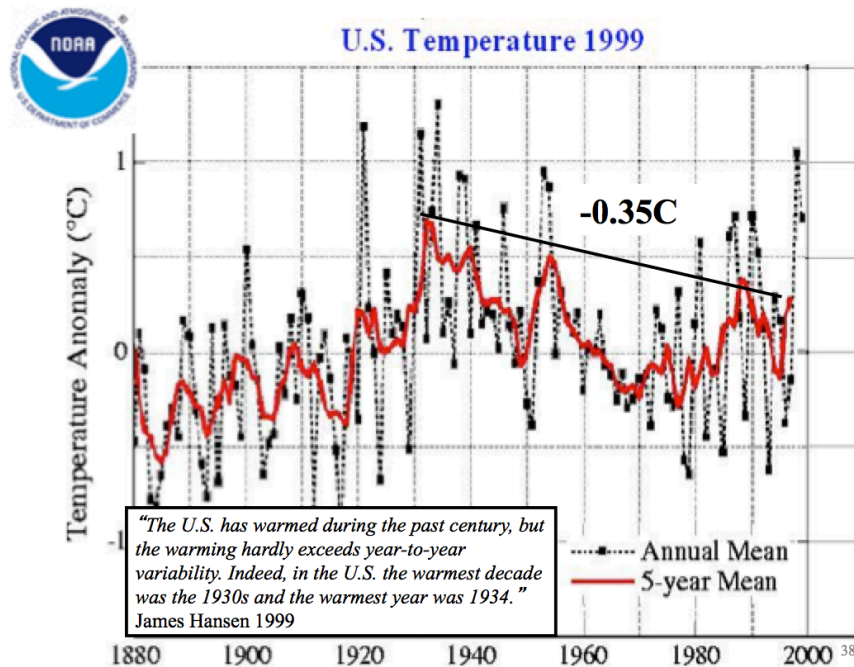
While the nation's weather in individual years or even for periods of years has been hotter or cooler and drier or wetter than in other periods, the new study shows that over the last century there has been no trend in one direction or another.

The study, made by scientists for the National Oceanic and Atmospheric Administration was published in the current issue of Geophysical Research Letters. It is based on temperature and precipitation readings taken at weather stations around the country from 1895 to 1987.

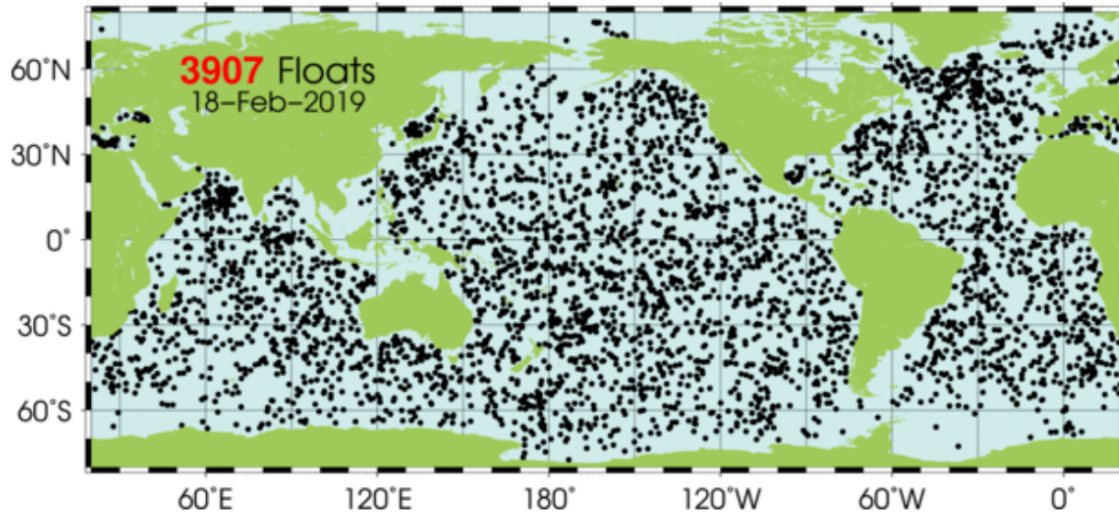
1992 – NOAA’s first global monthly assessment began (GHCNm - Vose). Subsequent releases include version 2 in 1997 (Peterson and Vose, 1997), version 3 in 2011 (Lawrimore et al. 2011) and, most recently, version 4 (Menne et al. 2018). GHCNm v4 consisted of mean monthly temperature data only.

1992 - The National Weather Service (NWS) Automated Surface Observing System (ASOS), which serves as the primary data source for more than 900 airports nationwide and is utilized for climate data archiving was deployed in the early 1990’s. Note the criteria specified a RMSE of 0.8F and max error of 1.9F. ASOS was designed to supply key information for aviation such as ceiling visibility, wind, indications of thunder and icing. It was not designed for assessing climate.

1999 - The USHCN temperature still trailed 1934 as it had a decade earlier - James Hansen noted *"The U.S. has warmed during the past century, but the warming hardly exceeds year-to-year variability. Indeed, in the U.S. the warmest decade was the 1930s and the warmest year 1934."* When asked why the discrepancy, Hansen said the US was less than 2% of the world and both could be right.



2000 – A network of nearly 4000 diving buoys (ARGO) were deployed world wide to provide the first real time monitoring of ocean temperatures and heat content.

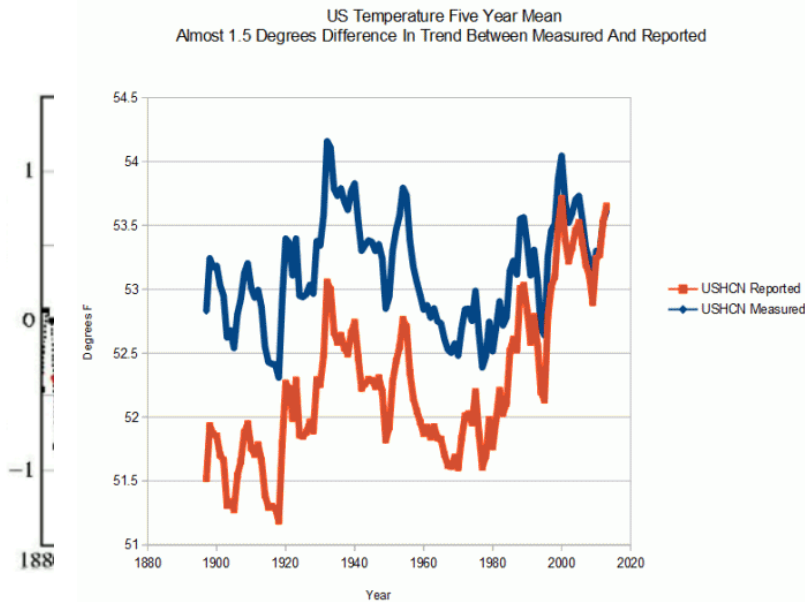


2001 -The IPCC in its third report (2001) conceded: *“In climate research and modelling, we should recognize that we are dealing with a coupled non-linear chaotic system, and therefore that the long-term prediction of future climate states is not possible.”* (Chapter 14, Section 14.2.2.2.)

2004 – National Climate Reference Network was established with the help of John Christy of UAH to provide uncontaminated temperatures in the lower 48 states. The 114 stations met the specifications that kept them away from local heat sources.

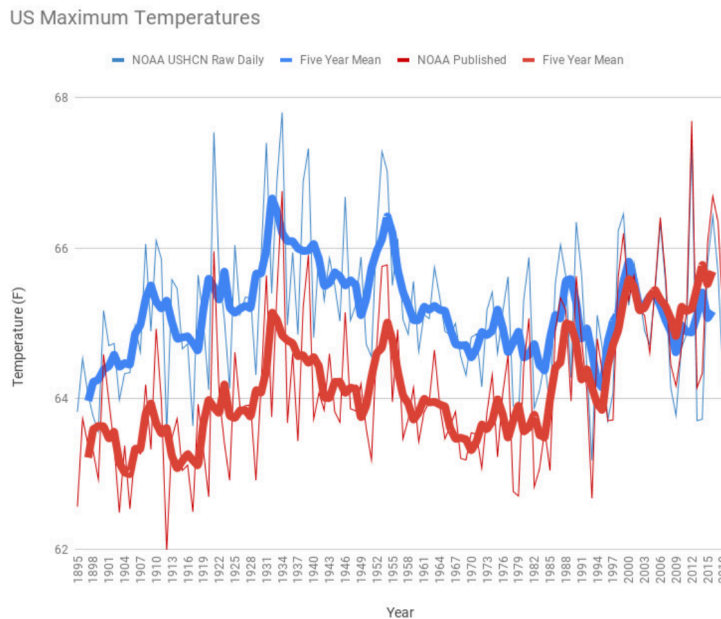
2005 - Pielke and Davey (2005) found a majority of stations, including climate stations in eastern Colorado, did not meet requirements for proper siting. They extensively documented poor siting and land-use change issues in numerous peer-reviewed papers including *“Unresolved issues with the assessment of multi-decadal global land surface temperature trends”* ([2007](#))

2007 – a new version, USHCNv2 replaced the urban adjustment with significant other adjustments including the removal of urban warming adjustments replaced by ‘homogenization’. The trend reversed with 1998 now warmer than 1934 and the mean trend higher than the 1930s.



David Easterling, Chief Scientific Services Division for NOAA’s Climate Center expressed concern in a letter to James Hansen at NASA *“One fly in the ointment, we have a new adjustment scheme for USHCNv2 that appears to adjust out some, if not all of the local trend that includes land use change and urban warming”*. It reduced the “bothersome 1940 warm blip” that warmists wanted to be minimized.

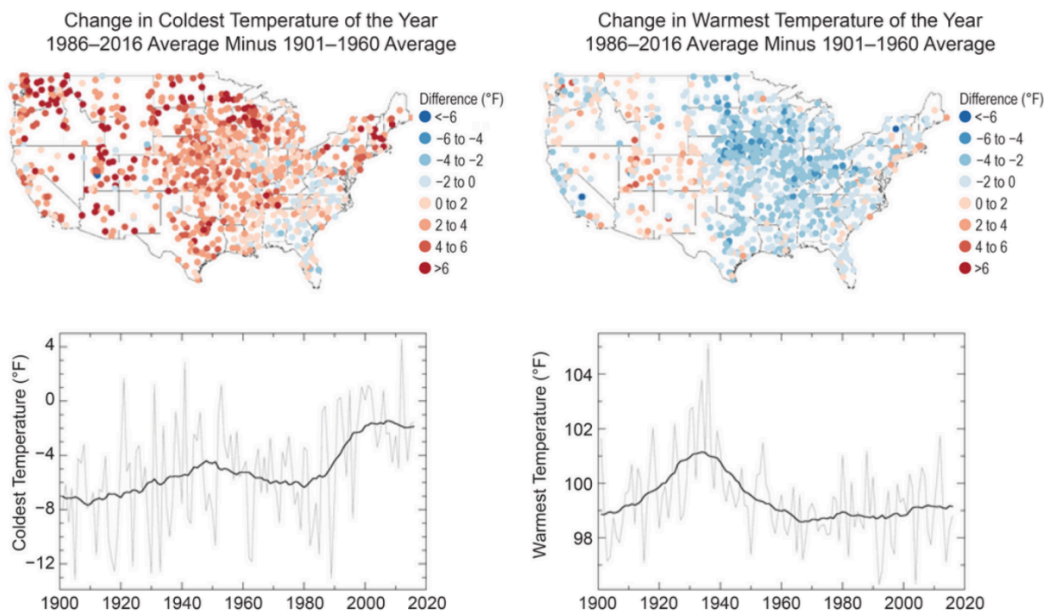
See [Tony Heller’s](#) plot of NOAA USHCN maximum temperature (5 year mean and annual) for the measured data(blue) and the ‘reported’ temperature (red).



See Tony Heller's two part video series on the temperature shenanigans [here](#) and [here](#).

The maximum temperature is a better measure for trends as it is not corrupted by the urban heat island which primarily elevated minima. NASA data changed in line with NOAA data. Between 2008 and 2018, NASA GISS added **0.24°C of trend-steepening warmth** to the 1910 to 2000 period. To accomplish this transformation, the pre-1950 temperatures were cooled, and the more recent temperatures were warmed up so as to create a more linear warming trend. [Kenneth Richards](#) in 'No TricksZone.' explained *"As there is considerable evidence that the integrity of the climate record has been compromised, it may be time to reconsider what the global temperature trends may look like when they are not "corrected" to fit the narrative preferred by data overseers"*.

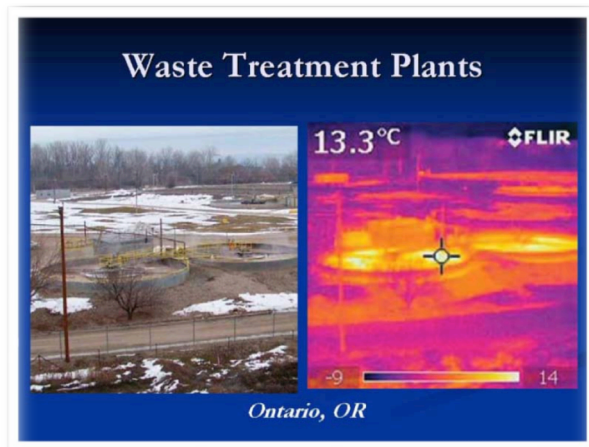
In the Fourth National Climate Assessment (NCA4), the U.S. Global Change Research Program (USGCRP), maximum and minimum temperatures 1986 to 2016 were compared long term (1901-1960) showed maximum temperature have cooled in the central to eastern US. Minimums were warmer especially central, northwest and northeast.



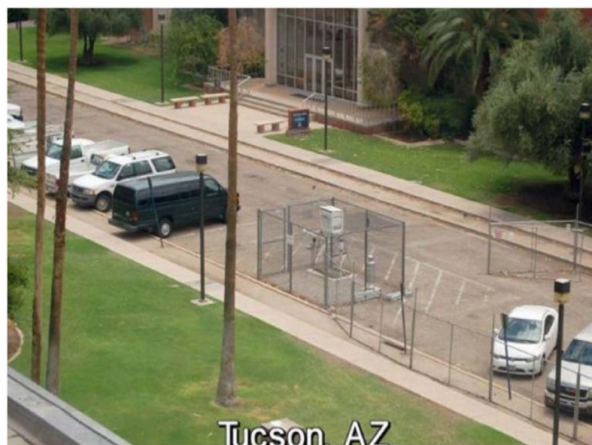
2008 - In a volunteer survey project, Anthony Watts and his more than 650 volunteers at www.surfacestations.org found that over 900 of the first 1,067 stations surveyed in the 1,221 station U.S. climate network

did not come close to the specifications as employed in Climate Reference Network (CRN) criteria. Only about 3% met the ideal specification for siting. They found stations located next to the exhaust fans of air conditioning units, surrounded by asphalt parking lots and roads, on blistering-hot rooftops, and near sidewalks and buildings that absorb and radiate heat.

They found 68 stations located at wastewater treatment plants, where the process of waste digestion causes temperatures to be higher than in surrounding areas. In fact, they found that 90% of the stations fail to meet the National Weather Service's own siting requirements that stations must be 30 m (about 100 feet) or more away from an artificial heating or reflecting source.



Numerous sensors are located at waste treatment plants. An infrared image of the scene shows the output of heat from the waste treatment beds right next to the sensor.
(Photos by Anthony Watts, surfacestations.org.)



2009 -

From [Climategate emails](#) eye-opening comments on the bothersome 1940 warm blip and data not supporting models

From: Tom Wigley, Date: Sun, 27 Sep 2009

“So, if we could reduce the ocean blip by, say, 0.15 deg C, then this would be significant for the global mean – but we’d still have to explain the land blip. I’ve chosen 0.15 here deliberately. This still leaves an ocean blip, and i think one needs to have some form of ocean blip to explain the land blip (via either some common forcing, or ocean forcing land, or vice versa, or all of these).”

From: Tom Wigley, Date: Fri, 06 Nov 2009

“We probably need to say more about this. Land warming since 1980 has been twice the ocean warming — and skeptics might claim that this proves that urban warming is real and important.”

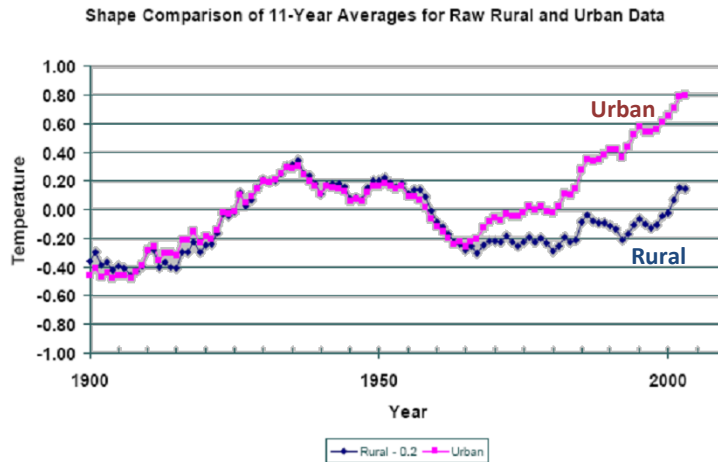
From: Kevin Trenberth, before Wed, 14 Oct 2009

“The fact is that we can’t account for the lack of warming at the moment and it is a travesty that we can’t. The CERES data published in the August BAMS 09 supplement on 2008 shows there should be even more warming: but the data are surely wrong. Our observing system is inadequate.”

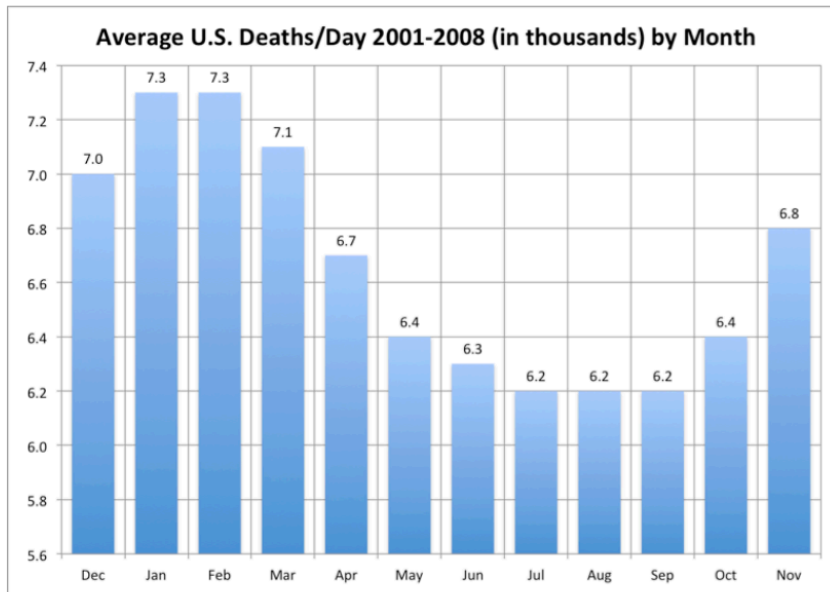
2009 - NASA’s Dr. Edward R. Long in a [2009 analysis](#) looked at the new version of the US data. Both raw and adjusted data from the NCDC (now NCEI) has been examined for a selected Contiguous U.S. set of rural and urban stations, 48 each or one per State. The raw data showed 0.13 and 0.79 C/century temperature increase for the rural and urban environments, consistent with urban factors. The adjusted data yielded 0.64 and 0.77 C/century respectively.

Comparison of the adjusted data for the rural set to that of the raw data shows a systematic treatment that causes the rural adjusted set’s temperature rate of increase to be 5-fold more than that of the raw data. This suggests the consequence of the NCDC’s protocol for adjusting the data is to cause historical data to take on the time-line characteristics of urban data. The consequence intended or not, is to report a false rate of temperature increase for the Contiguous U. S., consistent with modeling utilizing the Greenhouse theory.

NASA's Dr. Edward Long (2010) Study

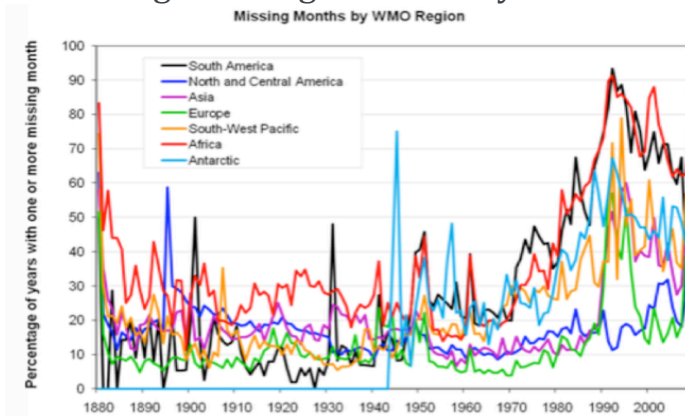


2009 - Indur M. Goklany wrote in 2009: “Data from the US National Center for Health Statistics for 2001-2008, shows that on average 7,200 Americans died each day during the months of December, January, February and March, compared to the average 6,400 who died daily during the rest of the year. In 2008, there were 108,500 ‘excess’ deaths during the 122 days in the cold months (December to March).



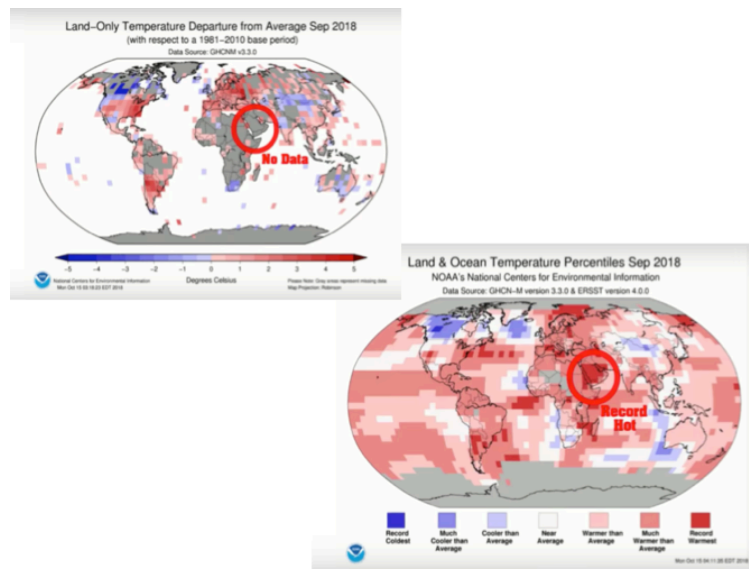
National Center for Health Statistics

2010 – A 2009 review of temperature issues was published by a large group of climate scientists entitled [Surface Temperature Records: A Policy Driven Deception](#). Many issues in the US and globally were discussed. Even as the stations incorporated in the global surface data sets increased in number and coverage, their reliability became a challenge, with many large continents having a large percentage of missing months in the station data. That required the data centers to **guess** the missing data to get a monthly and then annual average.



Analysis and graph: [Verity Jones](#)

Many may be surprised to see in the figure above that this missing data problem still exists today, in fact it appears worse with missing data estimated by using data from the nearest stations, sometime many hundreds of miles away. See the initial data regions in September 2018 that were filled in by algorithms. It includes filling in a large data void region with a **record warmth** assessment (Heller 2018).



2010 - A landmark [study](#) *Analysis of the impacts of station exposure on the U.S. Historical Climatology Network temperatures and temperature trends* followed, authored by Souleymane Fall, Anthony Watts, John Nielsen-Gammon, Evan Jones, Dev Niyogi, John R. Christy, Roger A. Pielke Sr represented years of work in studying the quality of the temperature measurement system of the United States. The study examined temperature differences among different levels of siting quality. They found that temperature trend estimates vary according to site classification, with poor siting leading to an overestimate of minimum temperature trends, resulting in exaggerated warming of average temperatures.

2010 - In a review sparked by this finding, [the GAO](#) found “42% of the active USHCN stations in 2010 *clearly did not meet NOAA’s siting standards. Whatsmore, just 24 of the 1,218 stations (about 2 percent) have complete data from the time they were established.*”

2010 - The CRU scientist at the center of the Climategate scandal at East Anglia University, Phil Jones, made a candid admission on BBC (2010) that his “*surface temperature data are in such disarray they probably cannot be verified or replicated, that there has been no statistically significant global warming for the last 15 years and it has cooled 0.12C/decade trend from 2002-2009.*” See [UK Mail story](#).

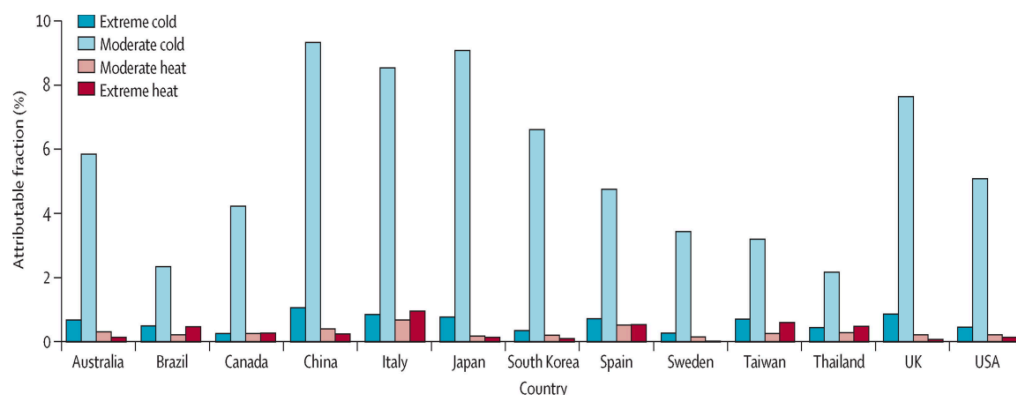
2013 – NOAA responded to papers on siting and GAO admonition by removing and/or replacing the worst stations. Also, in monthly press releases no satellite measurements are ever mentioned, although NOAA had told Karl that was the future of observations.

2015 – A pause in warming that started around 1997 was finally acknowledged in the journal Nature by IPCC Lead Author Kevin Trenberth and attributed to cyclical influences of natural factors like El Nino, ocean cycles on global climate. The AMS Annual Meeting in 2015 had 3 panels to address ‘the pause’.

2015 - Government agencies and media reporters continue to stress the danger of heat and ignore cold in their papers and in stories. The danger associated with this misdirection is that cold weather kills 20 times as many people as hot weather, according to an international study analyzing over 74 million deaths in 384 locations across 13 countries. The findings were published in The [Lancet](#).

“It’s often assumed that extreme weather causes the majority of deaths, with most previous research focusing on the effects of extreme heat waves,” says lead author Dr Antonio Gasparrini from the London School of Hygiene & Tropical Medicine in the UK.

The study analyzed over 74 million (74,225,200) deaths between 1985 and 2012 in 13 countries with a wide range of climates, from cold to subtropical. Data on daily average temperature, death rates, and confounding variables (eg, humidity and air pollution) were used to calculate the temperature of minimum mortality (the optimal temperature), and to quantify total deaths due to non-optimal ambient temperature in each location. Around 7.71% of all deaths were caused by non-optimal temperatures, with substantial differences between countries, ranging from around 3% in Thailand, Brazil, and Sweden to about 11% in China, Italy, and Japan. Cold was responsible for the majority of these deaths (7.29% of all deaths), while just 0.42% of all deaths were attributable to heat.



According to Dr Gasparrini, “Current public-health policies focus almost exclusively on minimizing the health consequences of heat waves. Our findings suggest that these measures need to be refocused and extended to take account of a whole range of effects associated with temperature.”

2015– NOAA under pressure put an end to the pause by altering the ocean temperatures from Argo buoys to better match ship intake temperatures that had become the dominant method in prior decades despite concerns over warm contamination from the ship engines. This resulted in the global surface data better fitting the theory of greenhouse warming. [John Bates](#), data quality officer with NOAA detailed how Tom Karl in a paper in Science in June 2015, just a few months before world leaders were to meet in Paris to agree on a costly Paris Climate Accord, removed the inconvenient pause by altering ocean temperatures. Since the oceans cover 71% of the globe, even small adjustments have a major impact.

2017 – a new U.S. climate data set nClimDiv with climate division model reconstructions and statewide averages was gradually deployed and replaced USHCNv2. The result was NOAA gave 40 out of 48 states ‘new’ warming. The Drd964x decadal CONUS warming rate from 1895 to 2012 was 0.088F/decade. The new nClimDiv rate from 1895 to 2014 is 0.135F/decade, almost double.

2017 - In the Research Report: On the Validity of NOAA, NASA and Hadley CRU Global Average Surface Temperature Data & The Validity of EPA’s CO2 Endangerment Finding, Abridged Research Report, Dr. James P. Wallace III, Joseph S. D’Aleo, Dr. Craig D. Idso, June 2017 ([here](#)) provided ample evidence that the Global Average Surface Temperature (GAST) data was invalidated for use in climate modeling and for any other climate change policy analysis purpose.

“The conclusive findings of this research are that the three GAST data sets are not a valid representation of reality. In fact, the magnitude of their historical data adjustments, that removed their cyclical temperature patterns, are totally inconsistent with published and credible U.S. and other temperature data. Thus, it is impossible to conclude from the three published GAST data sets that recent years have been the warmest ever – despite current claims of record setting warming.”

2018 – This follow-up [Research Report](#) argued that the statistical significance issue involving GHG impacts must be addressed using appropriate mathematical methods. Such methods are once again used in this new research and prove that increasing atmospheric CO2 concentrations did not have a statistically significant impact on the UAH TLT 6.0 temperature data set over the period 1979 to 2016. The Research Report demonstrated that there was a “Pause” in UAH TLT temperature trend increases over the 1995 to 2016 period. This is a time period over which atmospheric CO2 concentrations increased by over 12.0%.”

2019 - Tony Thomas in [Quadrant Online](#) on Dr. Mototaka Nakamura who in a book on “the sorry state of climate science” titled “Confessions of a climate scientist: the global warming hypothesis is an unproven hypothesis” wrote “The supposed measuring of global average temperatures from 1890 has been based on thermometer readouts barely covering 5 per cent of the globe until the satellite era began 40-50 years ago.” Further, he was contemptuous of claims about models being “validated”, saying the modelers are merely “trying to construct narratives that justify the use of these models for climate predictions.” And he concluded, *“With values of parameters that are supposed to represent many complex processes being held constant, many nonlinear processes in the real climate system are absent or grossly distorted in the models. It is a delusion to believe that simulation models that lack important nonlinear processes in the real climate system can predict (even) the sense or direction of the climate change correctly”.*

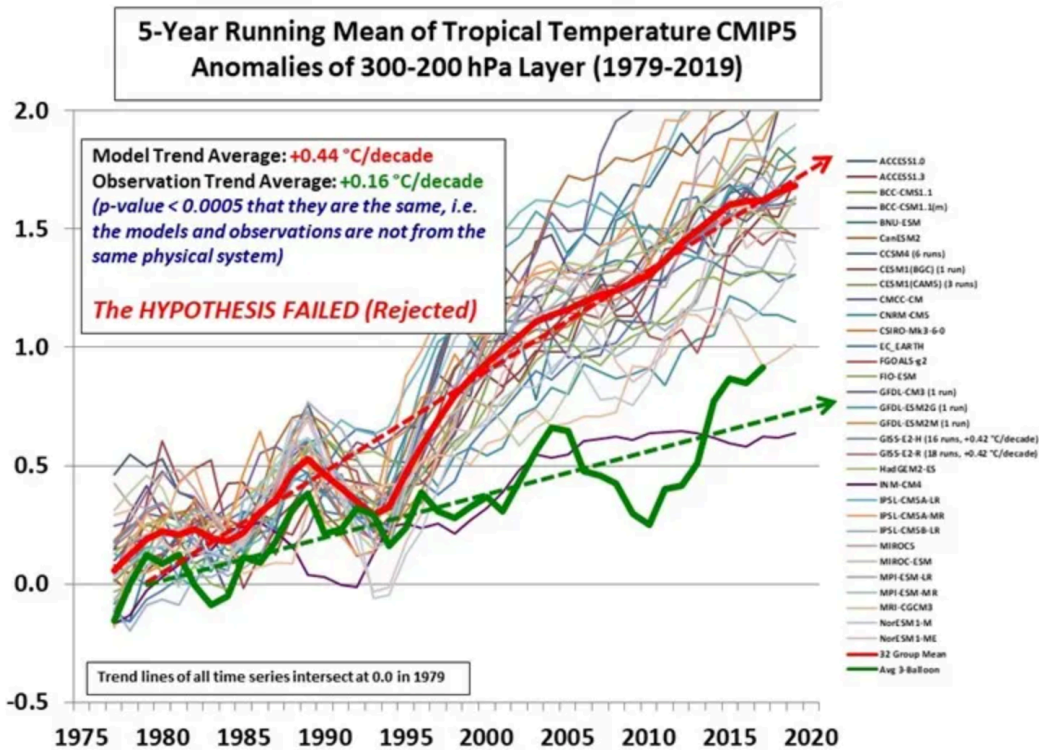
2019 - The June 2017 Research Report, Wallace et al, cited above, and the May 2018 Comment paper on “Examination of space-based bulk atmospheric temperatures used in climate research” by Christy et al (2018) provided ample evidence that the Global Average Surface Temperature (GAST) data was invalidated for use in climate modelling and for any other climate change policy analysis purpose. Further these reports provided ample evidence that the current officially reported GAST data are simply not credible, therefore invalidating the 2009 Endangerment Finding. However, there was one very critical science argument that neither report made, but was made in the Addendum ([here](#)) to the June 2017 Research Report .

The Addendum makes it very clear that there is a totally independent proof that is far easier to understand. Over the period 1900-2000, there is virtually no credible surface temperature data available for at least 40% of the surface of the Earth. This follows from the fact that the Southern Hemisphere's surface is over 80% ocean ($.50 \times .80 = 40$), and essentially no credible temperature data was captured for these vast oceans over this time period.

Hence, it never made any sense to even attempt to compute a GAST data set over this time period unless the purpose was to construct a temperature data set that could be made to have virtually any pattern over that time period that the institutions involved desired to portray as reality. In truth, with literally no credible temperature data available for well over 40% of the Earth's surface, these institutions were only limited by what was credible to the outside world.

Thus far, not knowing these facts, all relevant parties, e.g., regulators, environmentalists, and government officials, have been far too accepting of the GAST record as a valid global temperature database. Since GAST data has now been separately proven to not be a valid representation of reality, it also means that the 2009 CO2 Endangerment Finding has been once again invalidated – meaning that the other three are invalidated as well.

2019 – As the final nail in the coffin, all greenhouse models assume a so-called tropical hot spot, that the warming in the higher tropical atmosphere would be greater than surface warming leading to top down warming. However, consistent with the figure below, both UAH and RSS satellite data as well as the weather balloon data show the warming in the high atmosphere is less than half that at the surface.



Thus, Climate Models are invalid for at least two reasons: first, they all assume the existence of a non-existent tropical hotspot and second, they are all tuned to best explain the *now shown to be totally fabricated* Global Average Surface Temperature data.

2022 - In the Bombshell report: “96% of U.S. Climate data is Corrupted” [here](#). An effort led by Anthony Watts and David Legates did a thorough analysis of station siting and concluded the removal of the worst exposed stations just scraped the surface and the majority of stations were still biased and corrupted the real trends in the few remaining properly sited stations by homogenization (blending).

2024- The Epoch Times on April 9, 2024 in [Hidden Behind Climate Policies](#) that data from Non-Existent Temperature Stations are used. “Hundreds of ‘ghost’ climate stations are no longer operational; instead they are assigned temperatures from surrounding stations. Hundreds of ‘ghost’ climate stations are no longer operational; instead they are assigned temperatures from surrounding stations.”