

THE HOCKEY STICK

Year

AND THE CLIMATE WARS

DISPATCHES FROM THE FRONT LINES



Michael E. Mann

Departments of Meteorology and
Geosciences; Earth and Environmental
Systems Institute

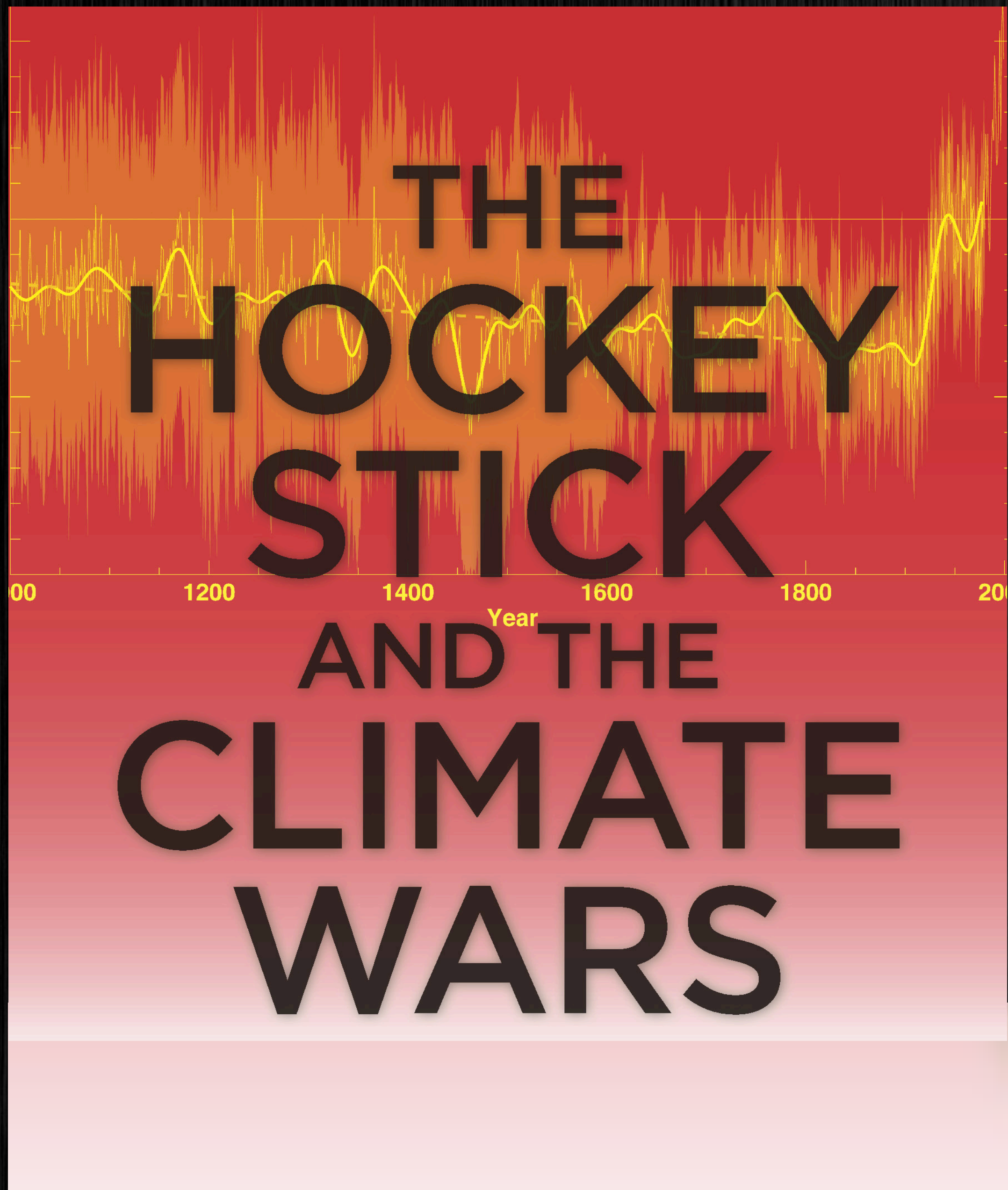
Penn State University

The Interfaces of Global Change Program

Virginia Tech

Blacksburg PA

Mar 20, 2015



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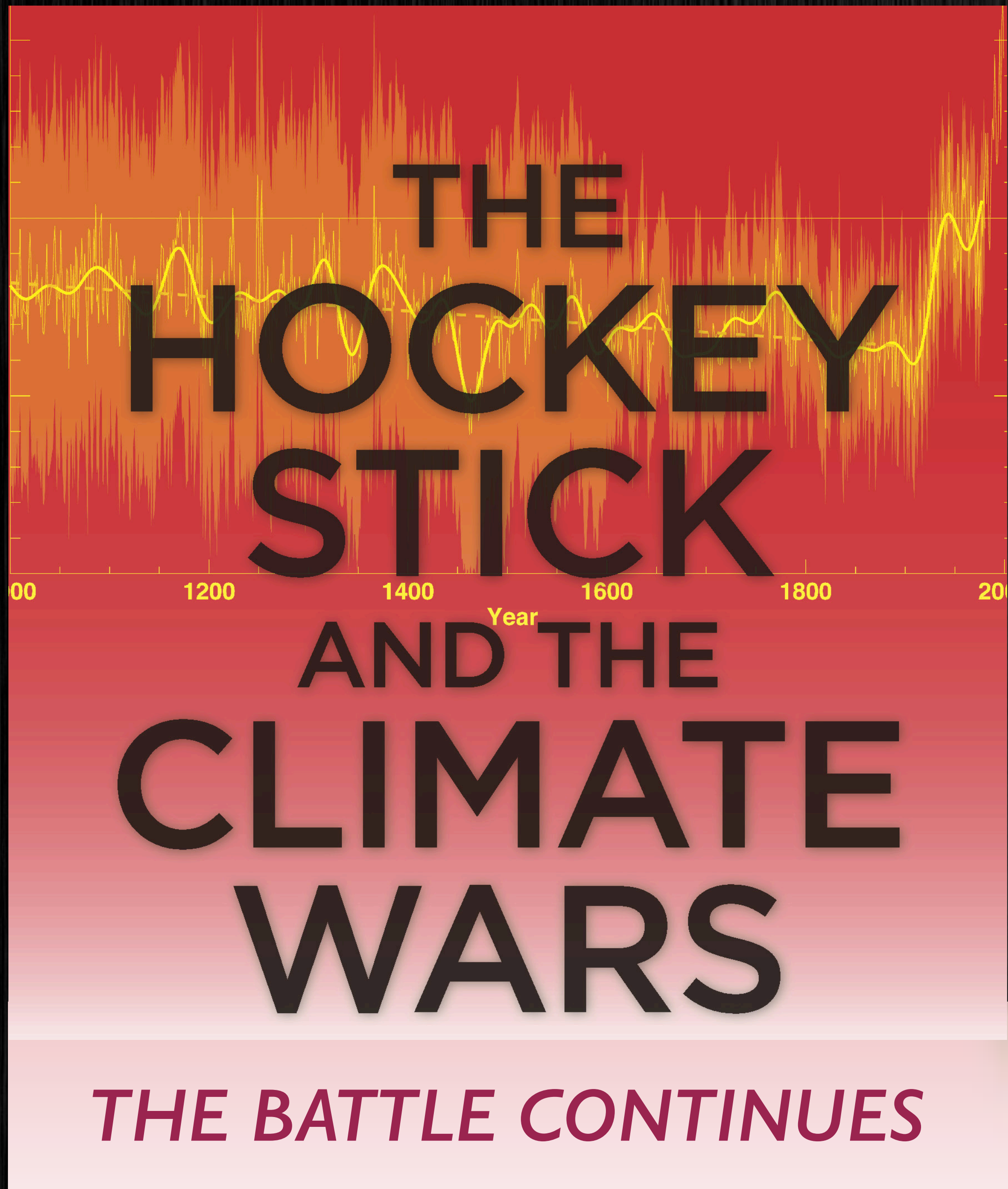
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The scientific case is relatively straightforward.

The “greenhouse effect” has been known for two centuries.

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Joseph Fourier

1827



John Tyndall

1859



Svante Arrhenius

1896



Guy Callendar

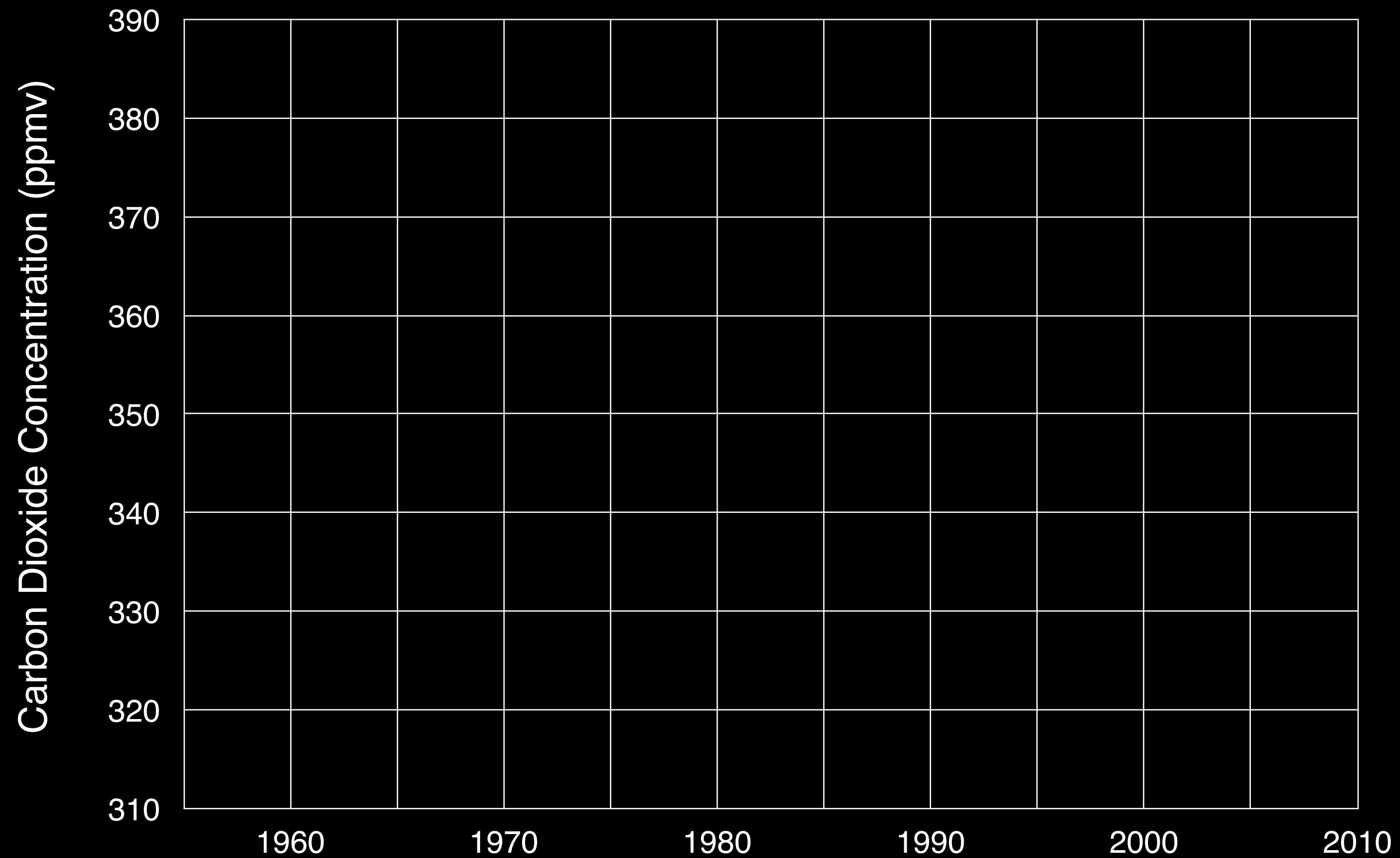
1939

A large, billowing plume of white smoke or steam rises from a red industrial chimney. The smoke is thick and textured, filling most of the frame. The sky is a clear, pale blue. The chimney is a dark red color and is partially visible at the bottom of the image.

FOSSIL FUEL BURNING

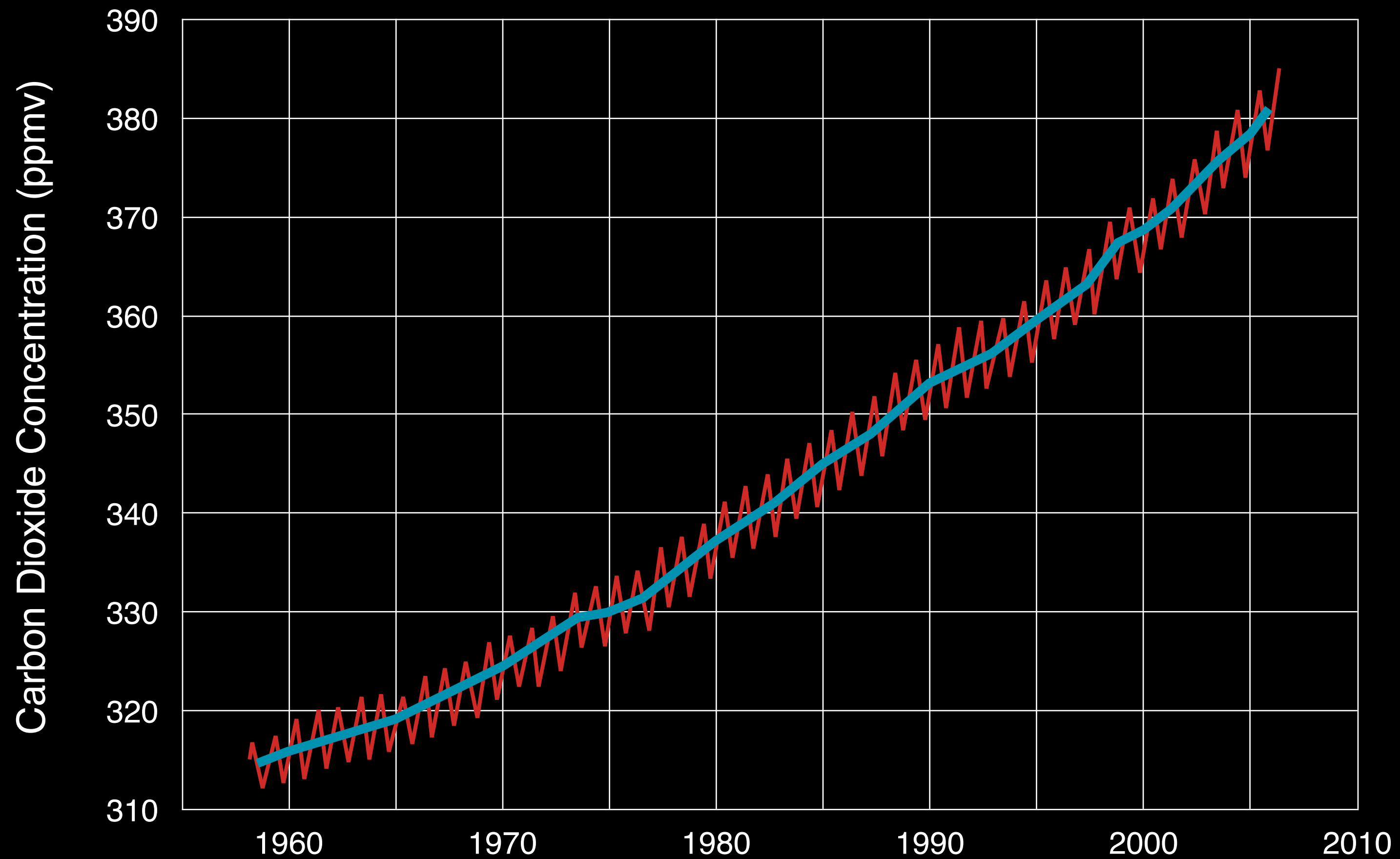
Atmospheric Carbon Dioxide

Measured at Mauna Loa, Hawaii



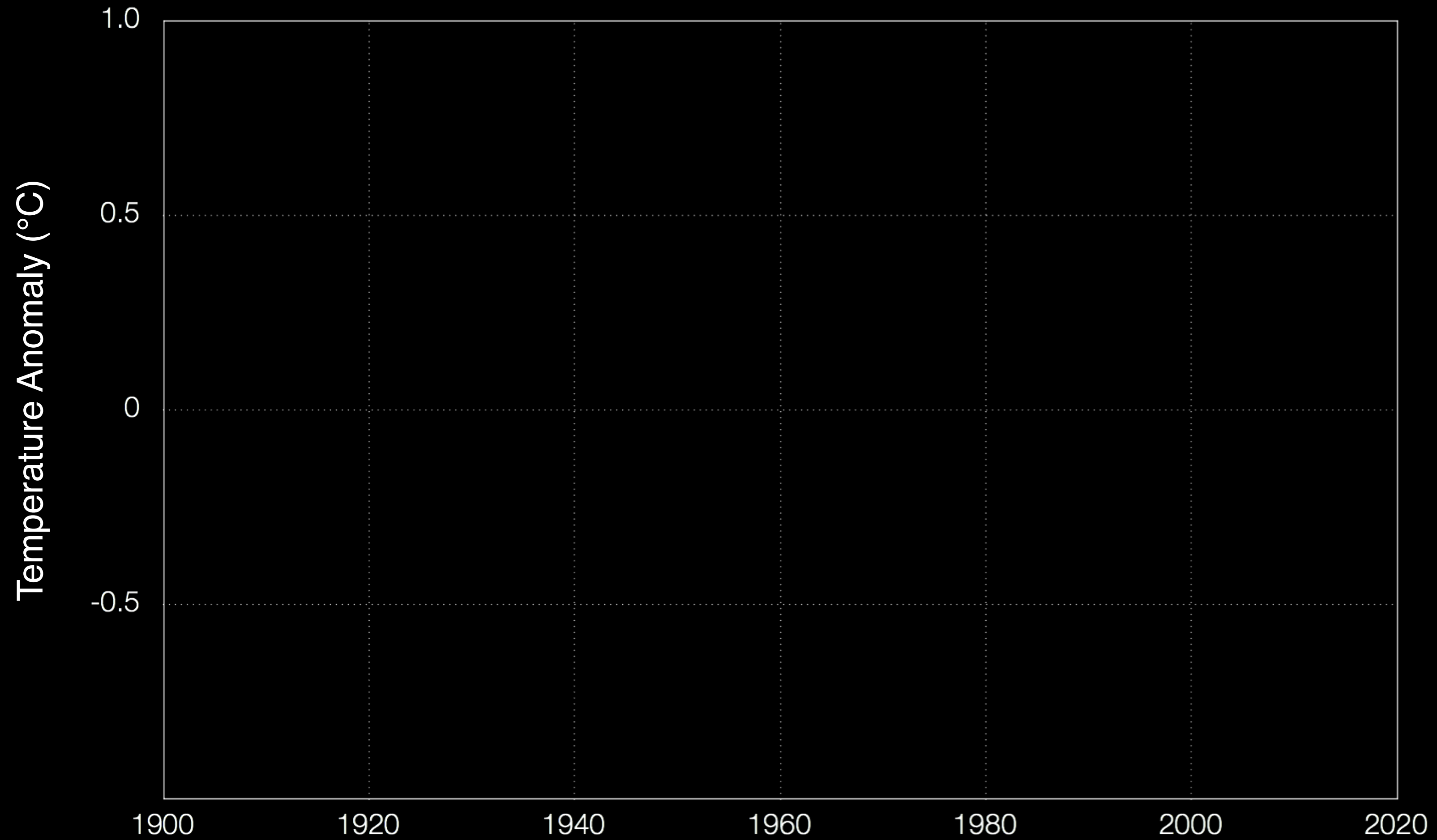
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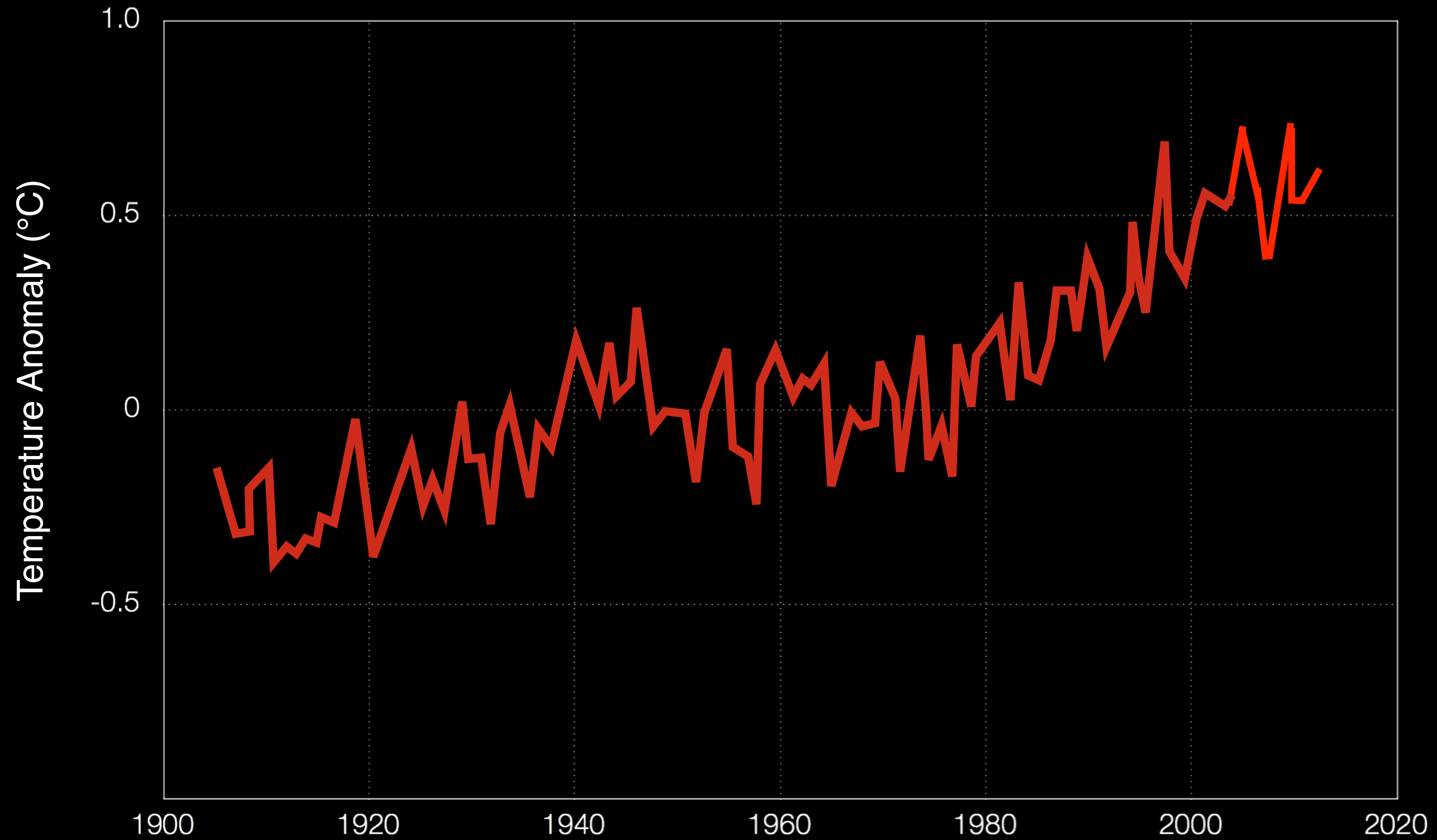


WARMING
TEMPERATURES

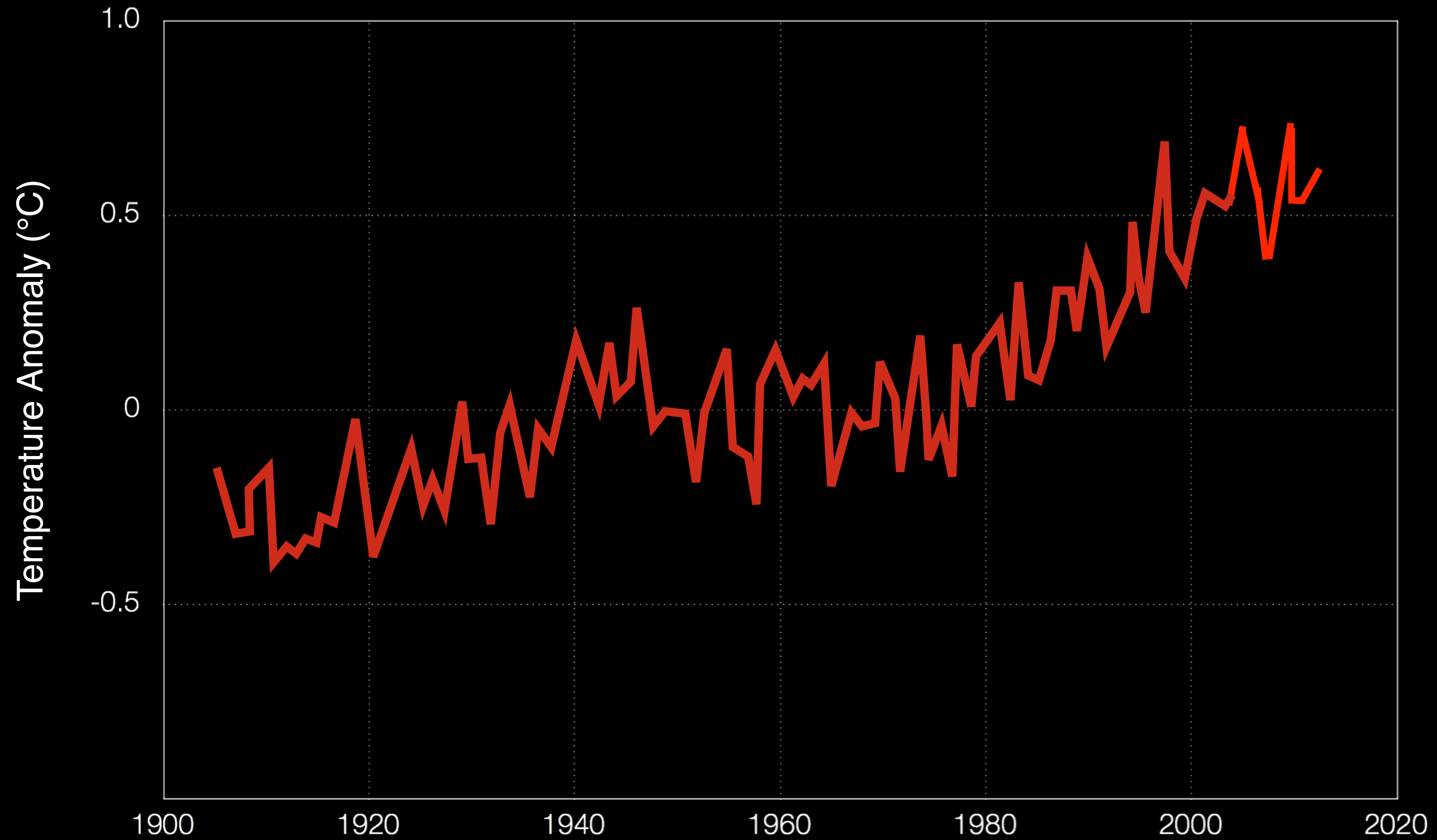
Observed Temperature Trends



Observed Temperature Trends



Observed Temperature Trends



Temperature Anomaly (°C)

"All the News That's Fit to Print"

The New York Times

Late Edition

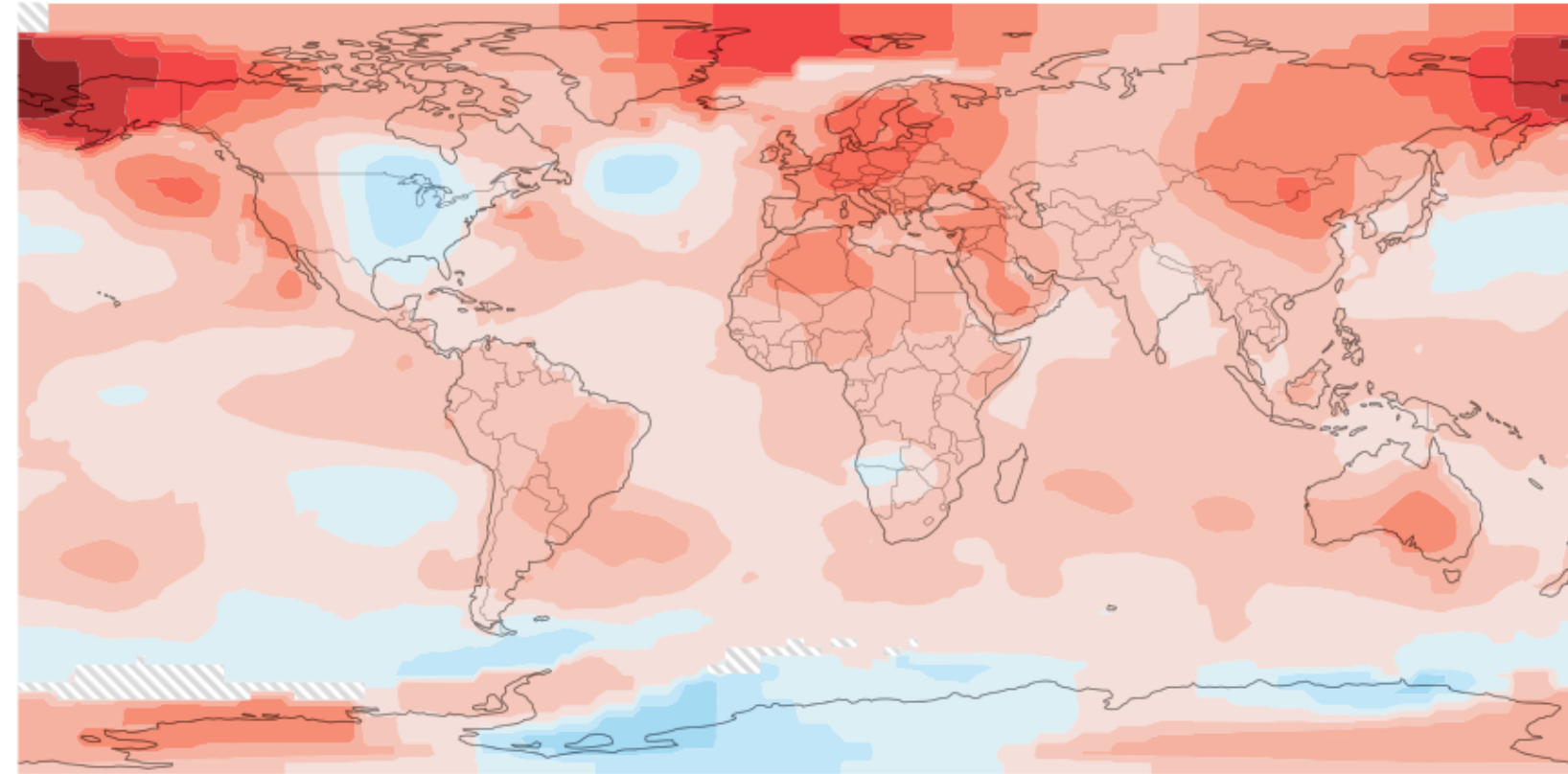
Today, mostly sunny, less windy, seasonably cold, high 27. Tonight, cloudy, rising temperatures late, low 26. Tomorrow, rain moves in, high 43. Weather map, Page C8.

VOL. CLXIV . . . No. 56,749

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NEW YORK, SATURDAY, JANUARY 17, 2015

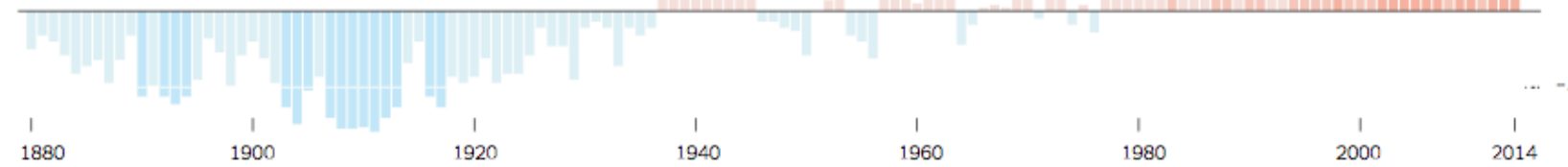
\$2.50



How far above or below average temperatures were in 2014

-1.8°F 0 +1.8 +3.6 +5.4 +7.2°F No data

Average global surface air temperature



Sources: NASA; National Oceanic and Atmospheric Administration. Map shows departures from the 1951-80 average; chart shows departures from 1901-2000 average. THE NEW YORK TIMES

2014 Breaks Heat Record, Challenging Global Warming Skeptics

By JUSTIN GILLIS

Last year was the hottest on earth since record-keeping began in 1880, scientists reported on Friday, underscoring warnings about the risks of runaway greenhouse gas emissions and undermining claims by climate change contrarians that global warming had somehow stopped.

Extreme heat blanketed Alaska and much of the western United States last year. Records were set across large areas of every inhabited continent. And the ocean surface was unusually warm virtually everywhere except near Antarctica, the scientists said, providing the energy that fueled

damaging Pacific storms.

In the annals of climatology, 2014 surpassed 2010 as the warmest year. The 10 warmest years have all occurred since 1997, a reflection of the relentless planetary warming that scientists say is a consequence of human activity and poses profound long-term risks to civilization and nature.

"Climate change is perhaps the major challenge of our generation," said Michael H. Freilich, director of earth sciences at NASA, one of the agencies that track global temperatures.

Of the large land areas where many people live, only the eastern portion of the United States recorded below-average temperatures in 2014, in sharp con-

Steep Rise Is Seen — Lately, Records Last Only a Few Years

trast to the unusual heat in the West. Some experts think the weather pattern that produced those American extremes is an indirect consequence of the release of greenhouse gases, though that is not proven.

Several scientists said the most remarkable thing about the 2014 record was that it had occurred in a year that did not feature a strong El Niño, a large-

scale weather pattern in which the Pacific Ocean pumps an enormous amount of heat into the atmosphere.

Skeptics of climate change have long argued that global warming stopped around 1998, when an unusually powerful El Niño produced the hottest year of the 20th century. Some politicians in Washington have seized on that claim to justify inaction on emissions.

But the temperature of 1998 is now being surpassed every four or five years, and 2014 was the first time that happened without a significant El Niño. Gavin A. Schmidt, head of NASA's Goddard Institute for Space Studies

Continued on Page A6

JUSTICES TO DECIDE MARRIAGE RIGHTS FOR GAY COUPLES

Broad Ruling Expected — May Force All States to Allow Same-Sex Unions

By ADAM LIPTAK

WASHINGTON — The Supreme Court on Friday agreed to decide whether all 50 states must allow gay and lesbian couples to marry, positioning it to resolve one of the great civil rights questions in a generation before its current term ends in June.

The decision came just months after the justices ducked the issue, refusing in October to hear appeals from rulings allowing same-sex marriage in five states. That decision, which was considered a major surprise, delivered a tacit victory for gay rights, immediately expanding the number of states with same-sex marriage to 24, along with the District of Columbia, up from 19.

Largely as a consequence of the Supreme Court's decision not to act, the number of states allowing same-sex marriage has since grown to 36, and more than 70 percent of Americans live in places where gay couples can marry.

The cases the Supreme Court agreed to hear on Friday were brought by some 15 same-sex couples in four states. The plaintiffs said they have a fundamental right to marry and to be treated as opposite-sex couples are, adding that bans they challenged demeaned their dignity, imposed countless practical difficulties and inflicted particular harm on their children.

The pace of change on same-sex marriage, in both popular opinion and in the courts, has no parallel in the nation's history.

Gay rights advocates hailed the court's move on Friday as one of the final steps in a decades-long journey toward equal treatment, and they expressed confidence they would prevail.

"We are finally within sight of

the day when same-sex couples across the country will be able to share equally in the joys, protections and responsibilities of marriage," said Jon W. Davidson, the legal director of Lambda Legal.

Supporters of traditional marriage said the Supreme Court now has a chance to return the issue to voters and legislators.

"Lower court judges have robbed millions of people of their voice and vote on society's most fundamental relationship — marriage," said Tony Perkins, the president of the Family Research Council, a conservative policy and lobbying group. "There is nothing in the Constitution that empowers the courts to silence the people and impose a nationwide redefinition of marriage."

The Supreme Court's lack of action in October and its last three major gay rights rulings suggest that the court will rule in favor of same-sex marriage. But the court also has a history of caution in this area.

It agreed once before to hear a constitutional challenge to a same-sex marriage ban, in 2012 in

Continued on Page A3

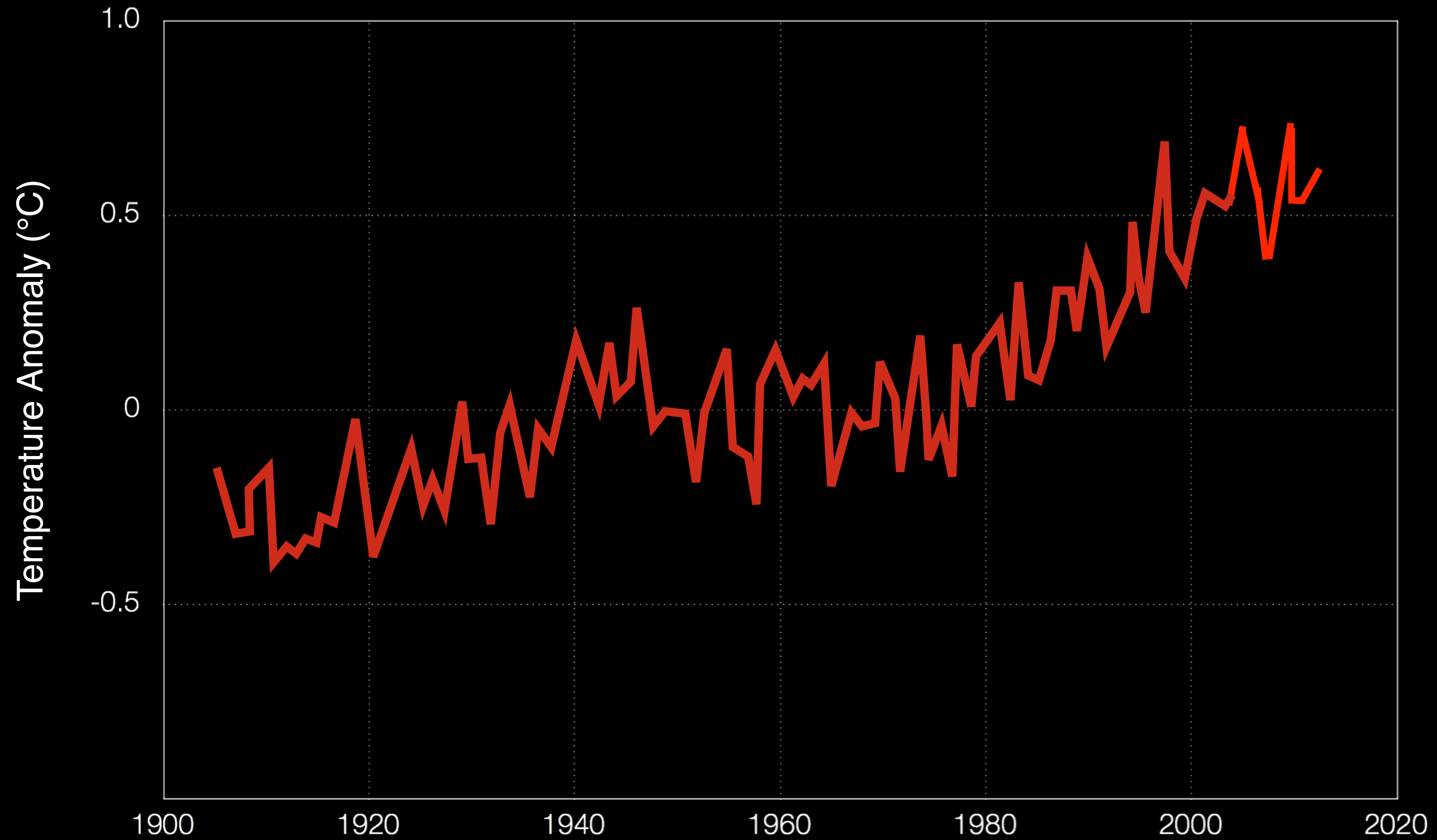


JABIN BOTSFORD/THE NEW YORK TIMES

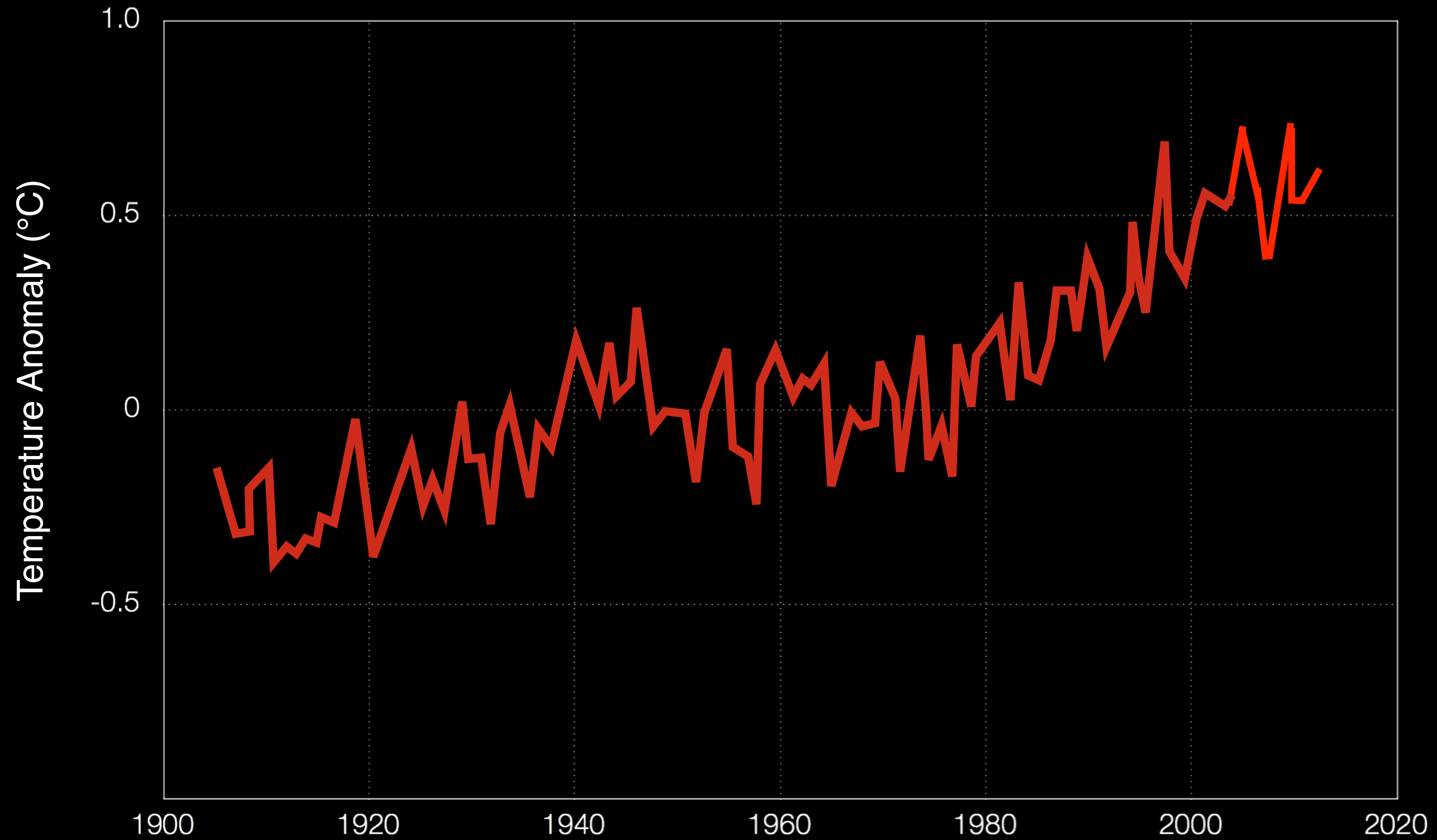
A flag backing same-sex marriage, at the Supreme Court.

2020

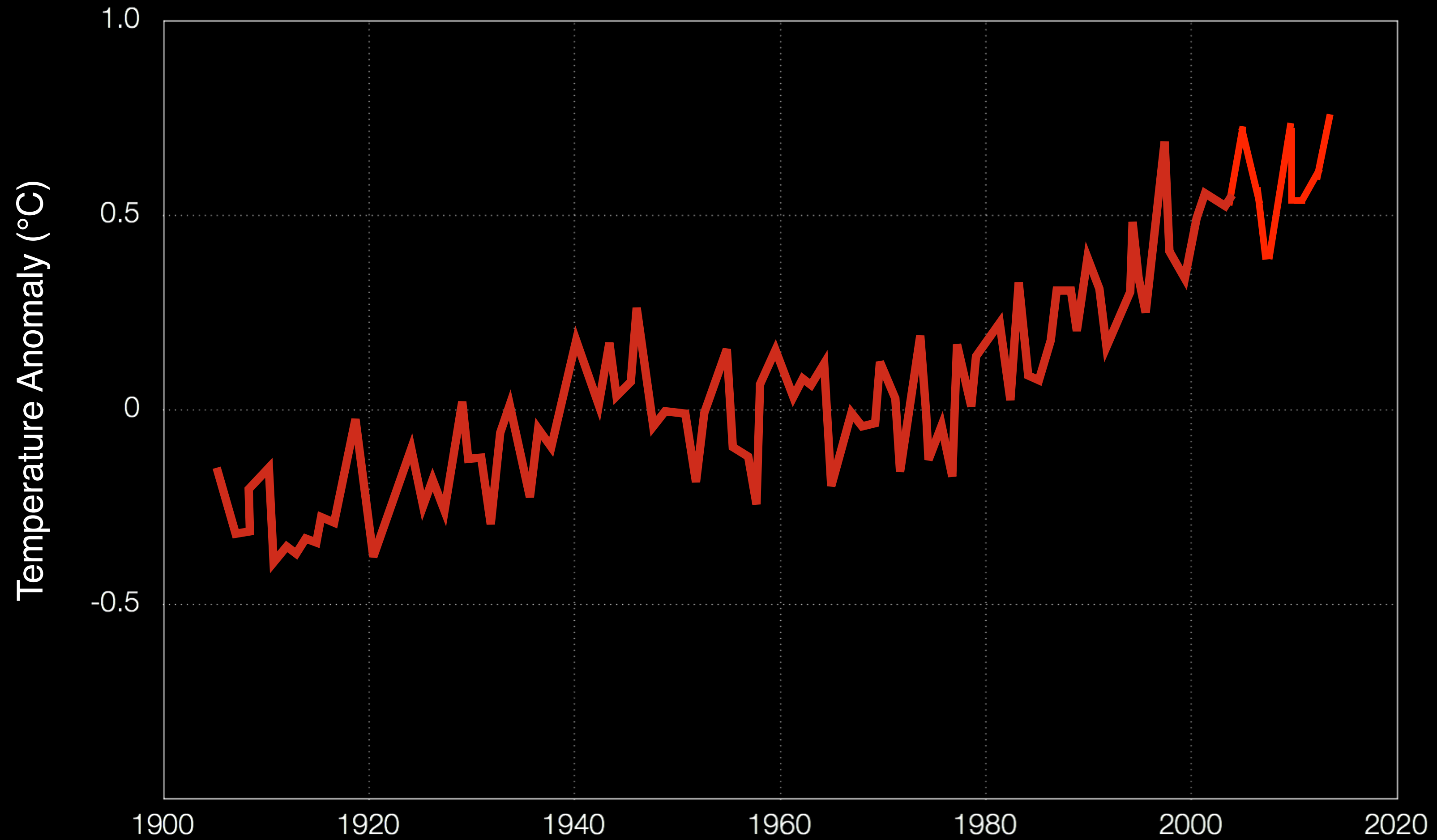
Observed Temperature Trends



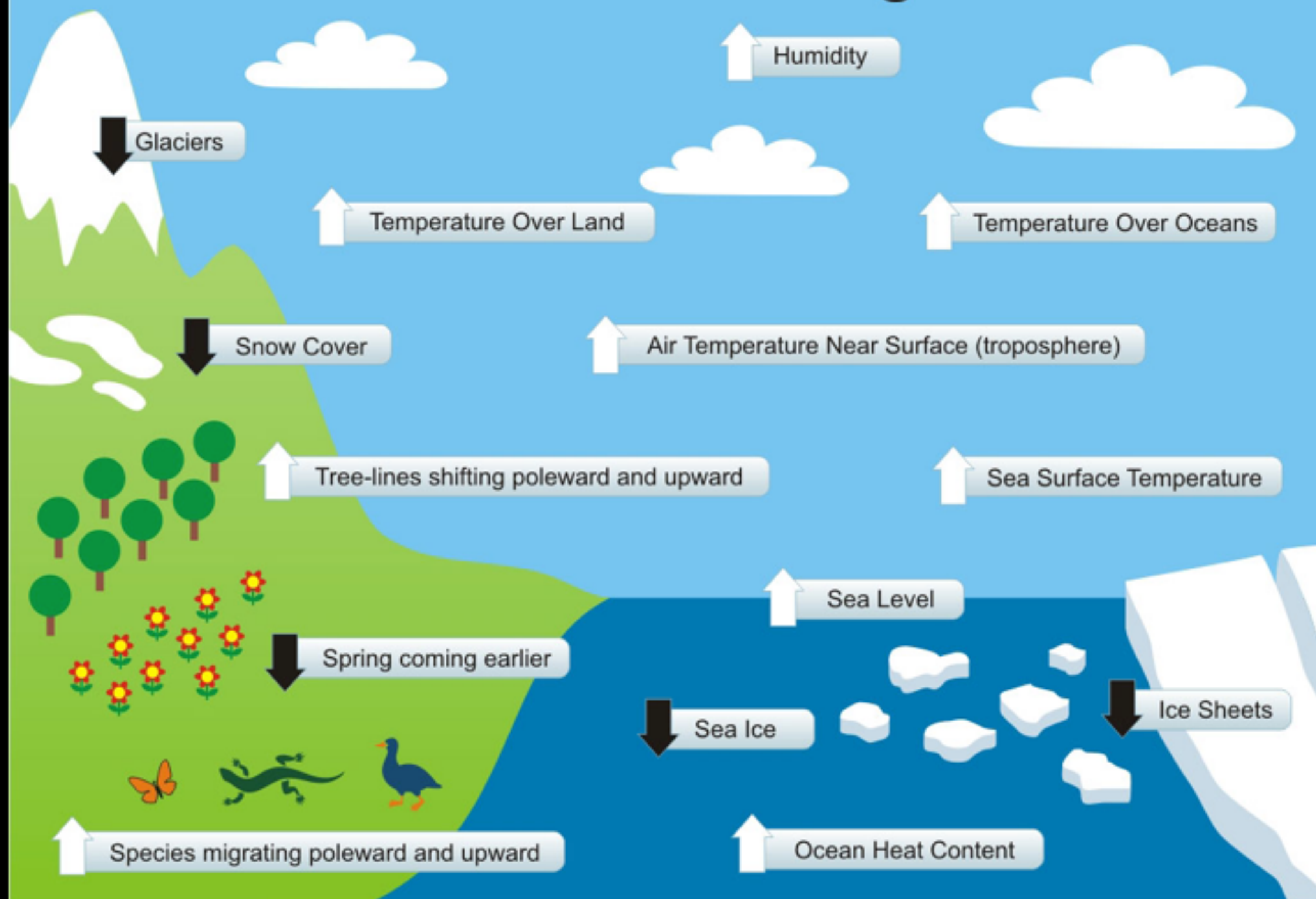
Observed Temperature Trends



Observed Temperature Trends



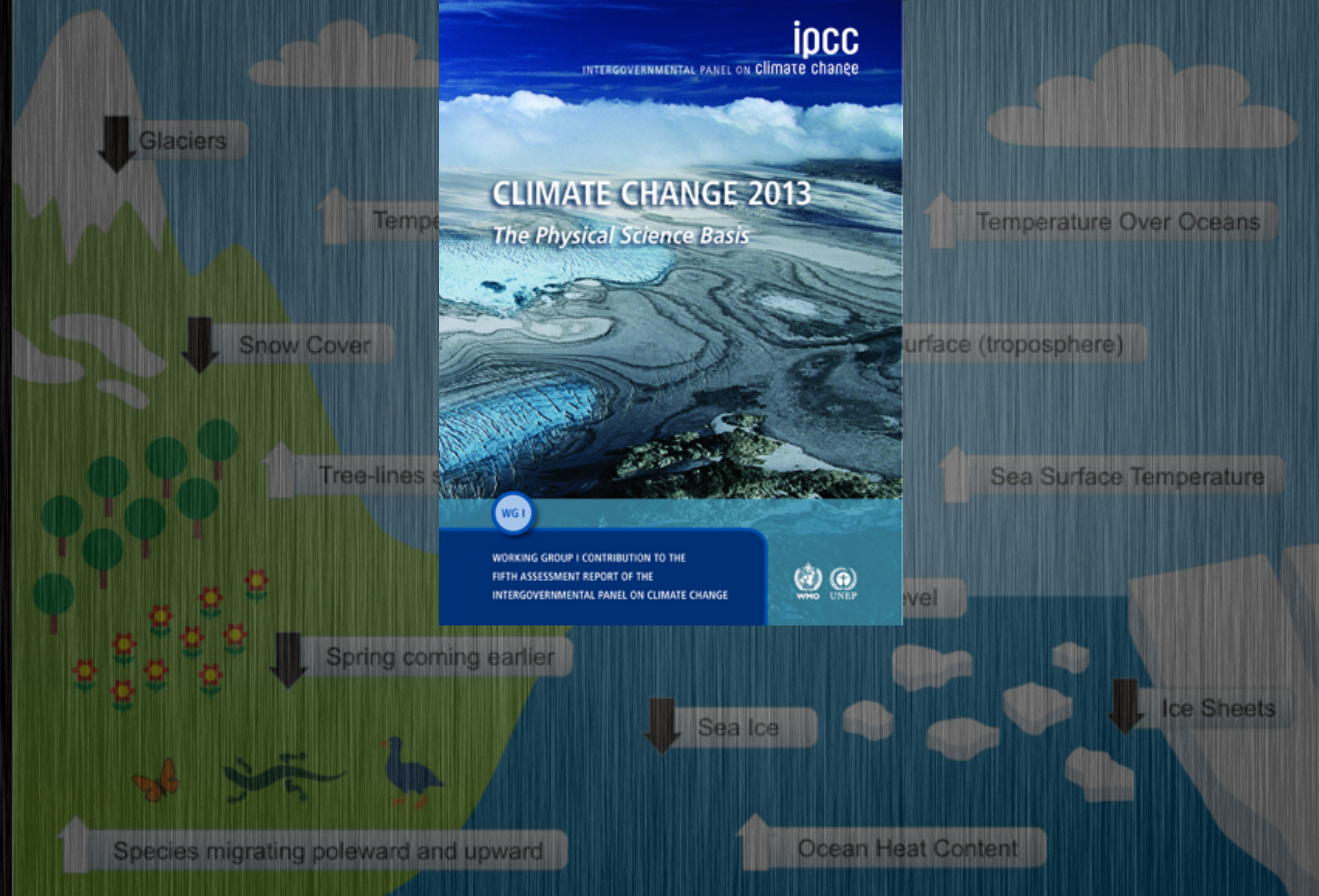
Indicators of a Warming World



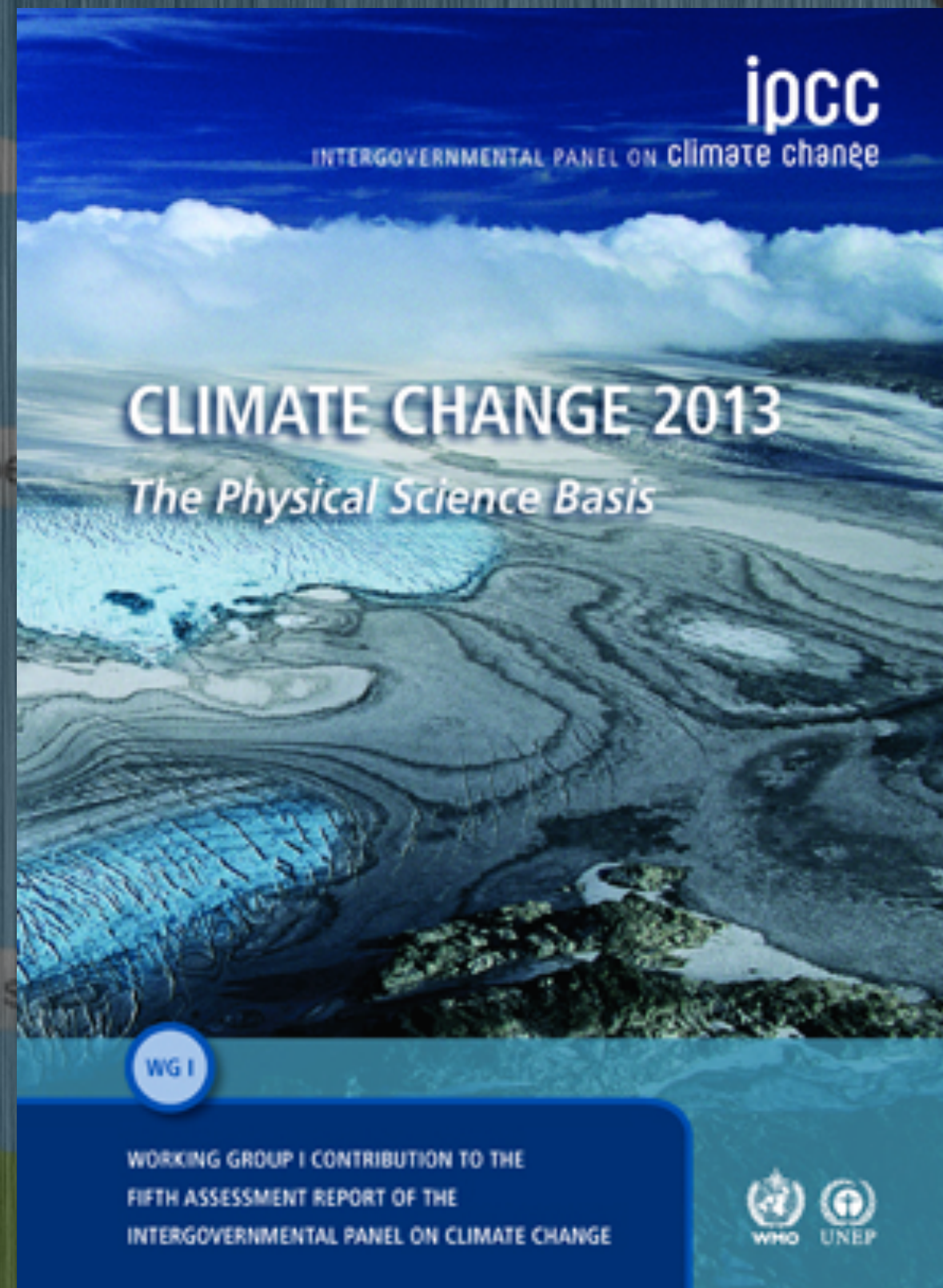
Indicators of a Warming World



Indicators of a Warming World

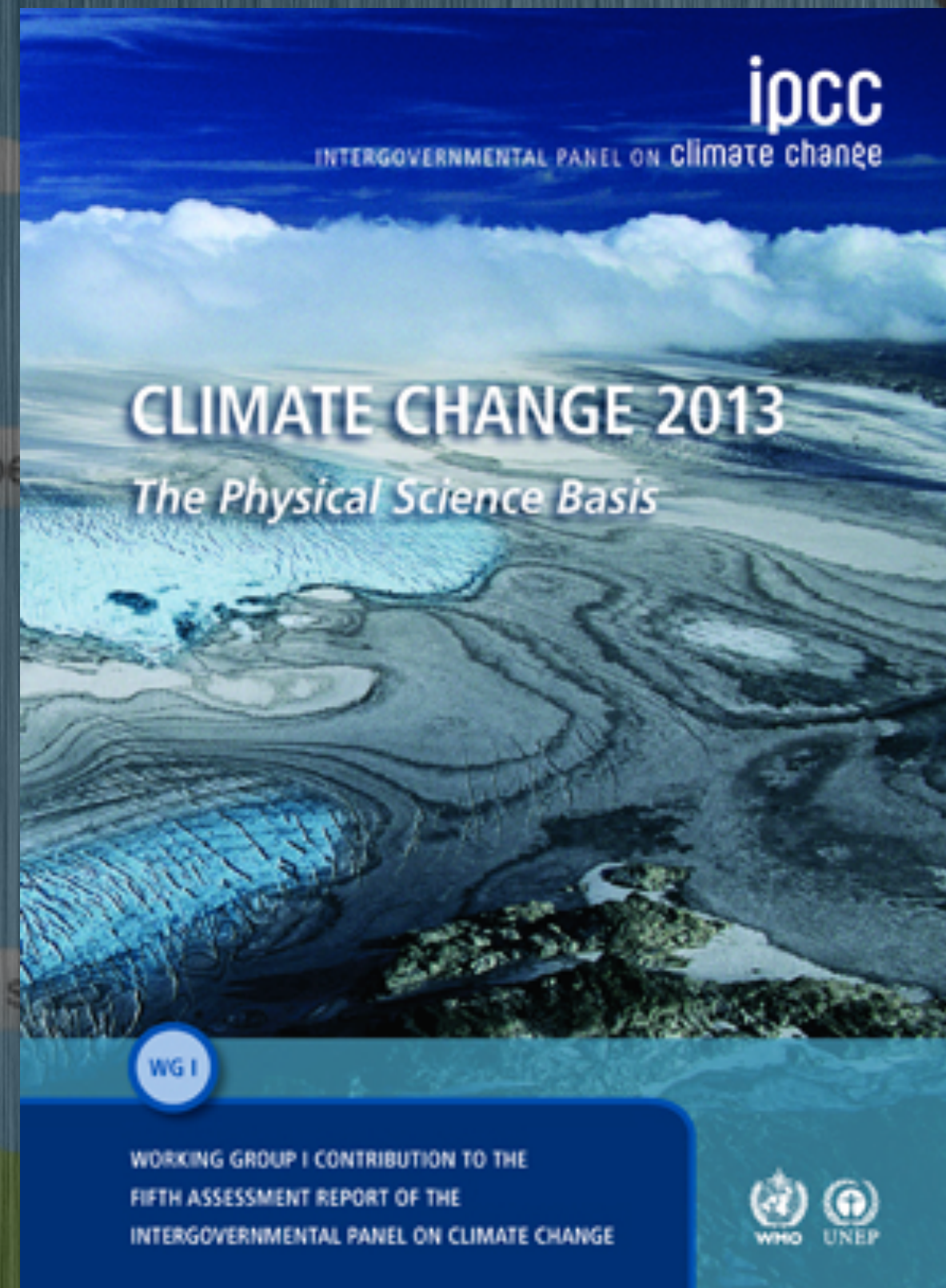


Indicators of a Warming World



Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased (see Figures SPM.1, SPM.2, SPM.3 and SPM.4). {2.2, 2.4, 3.2, 3.7, 4.2–4.7, 5.2, 5.3, 5.5–5.6, 6.2, 13.2}

Indicators of a Warming World



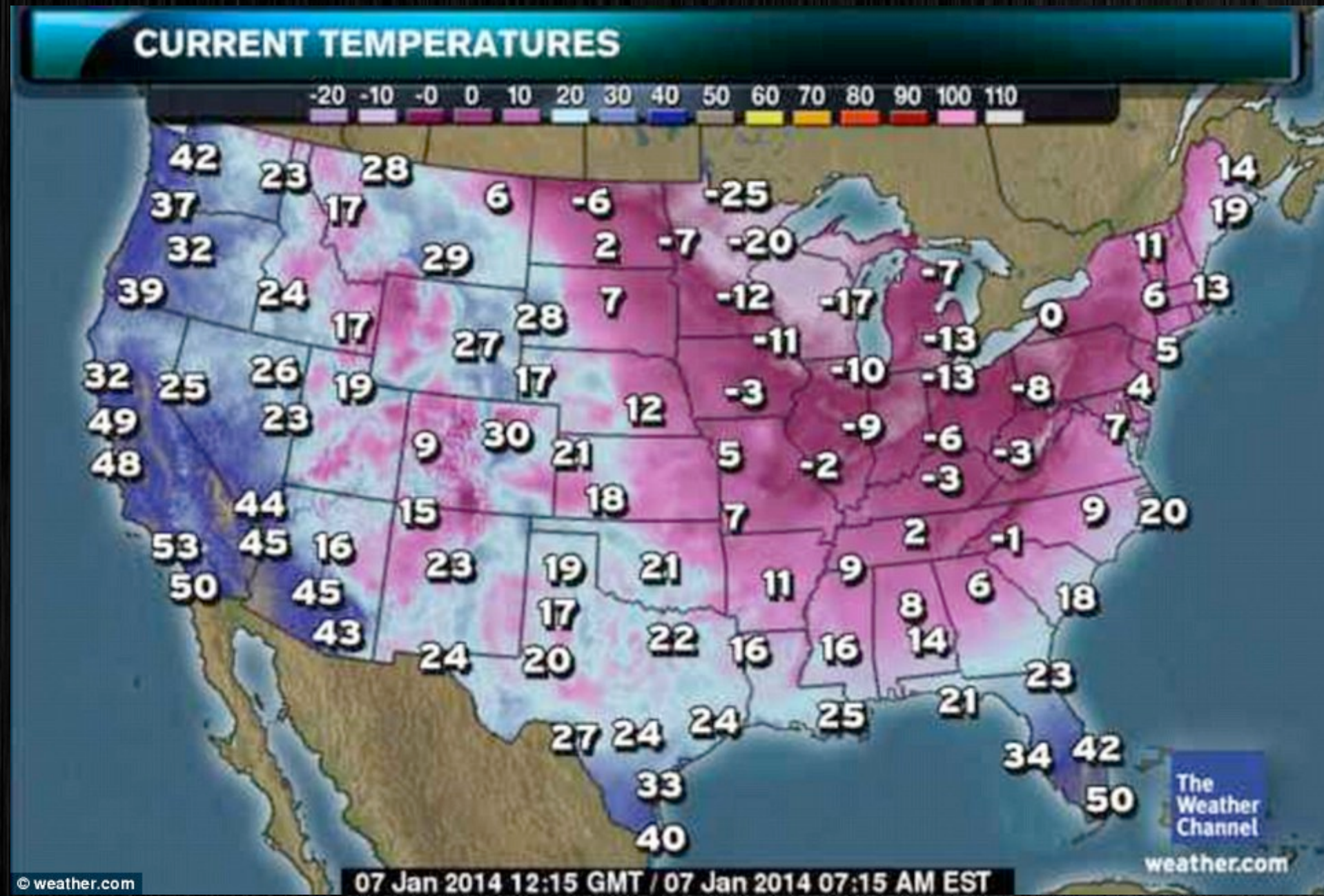
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Indicators of a Warming World

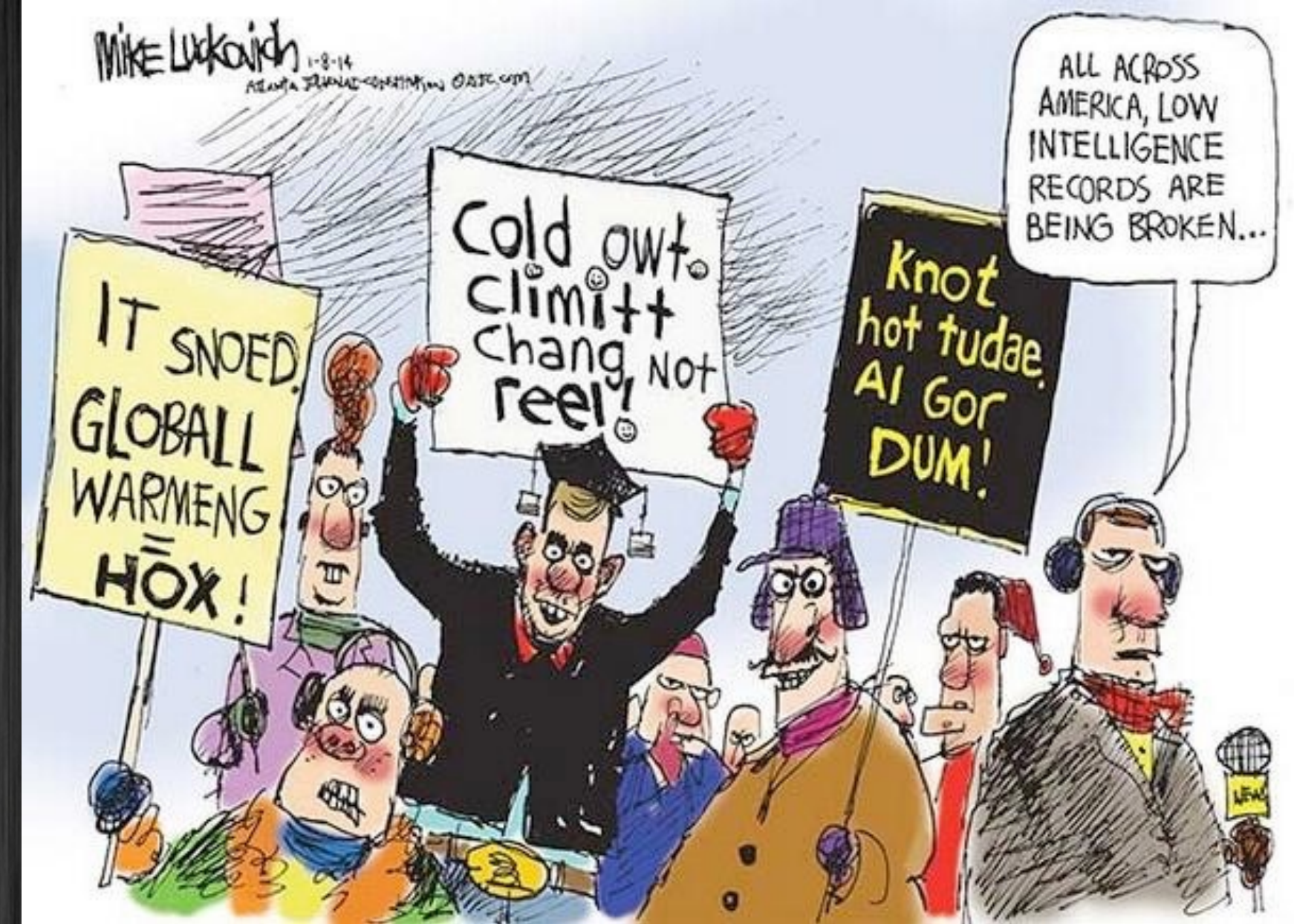
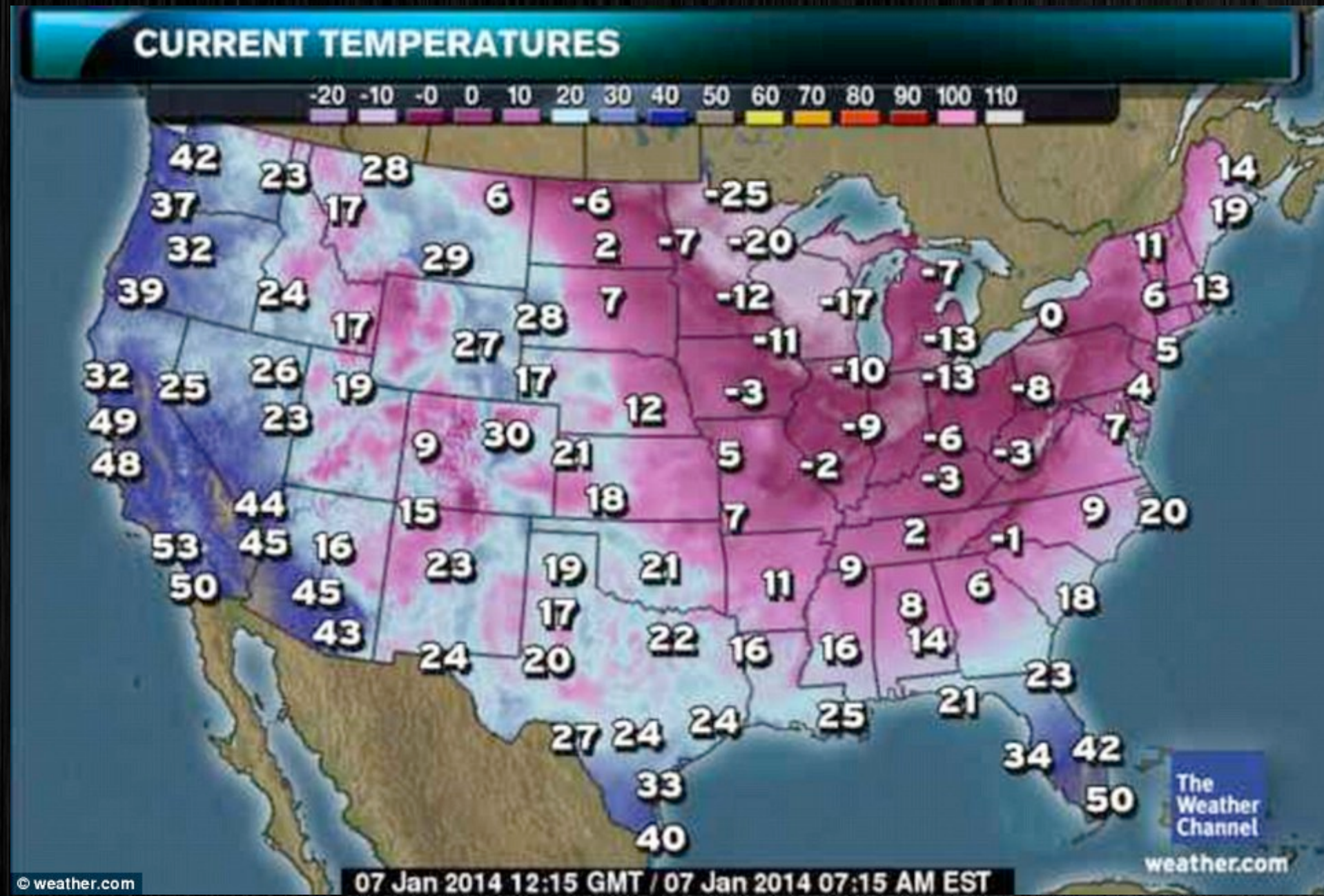


COLD

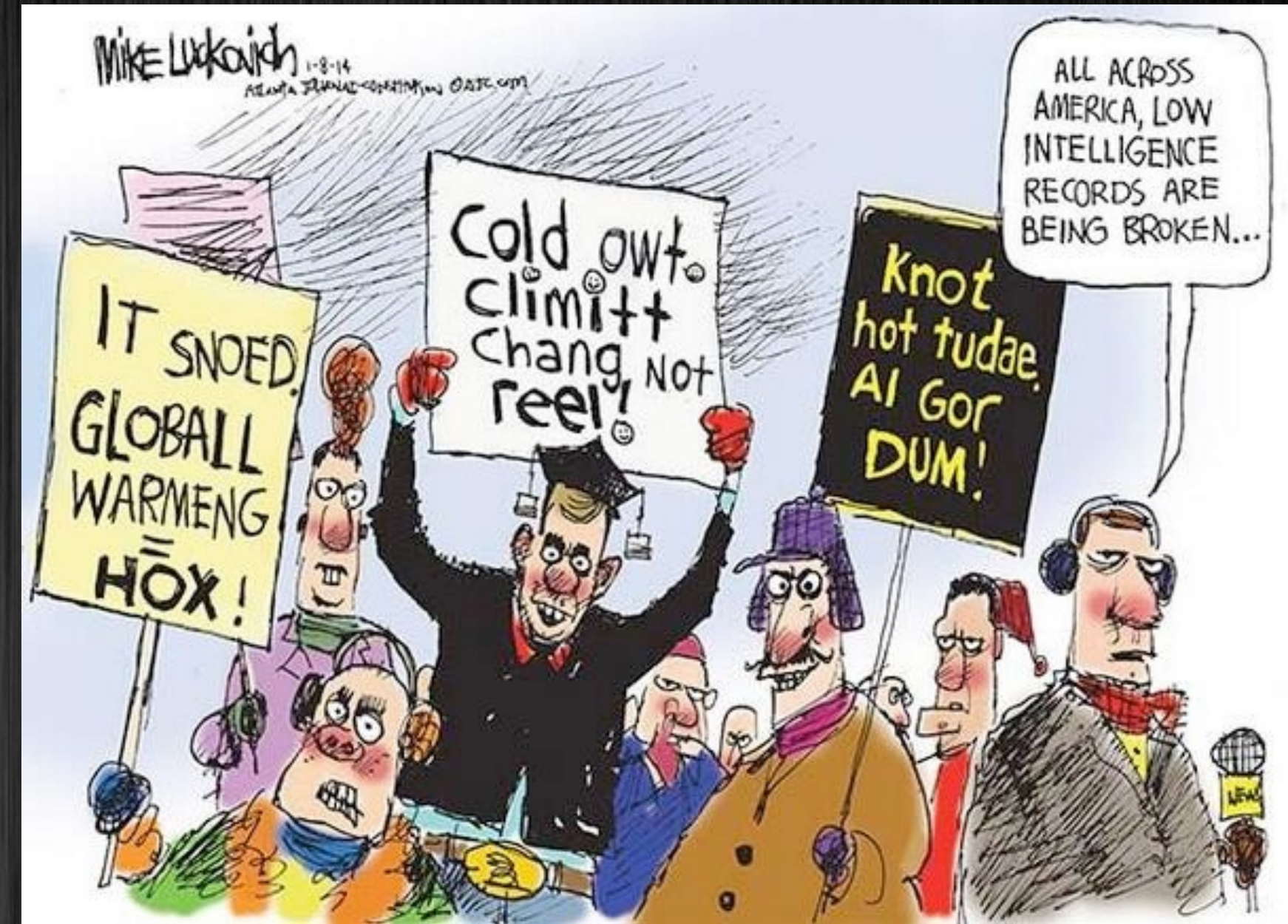
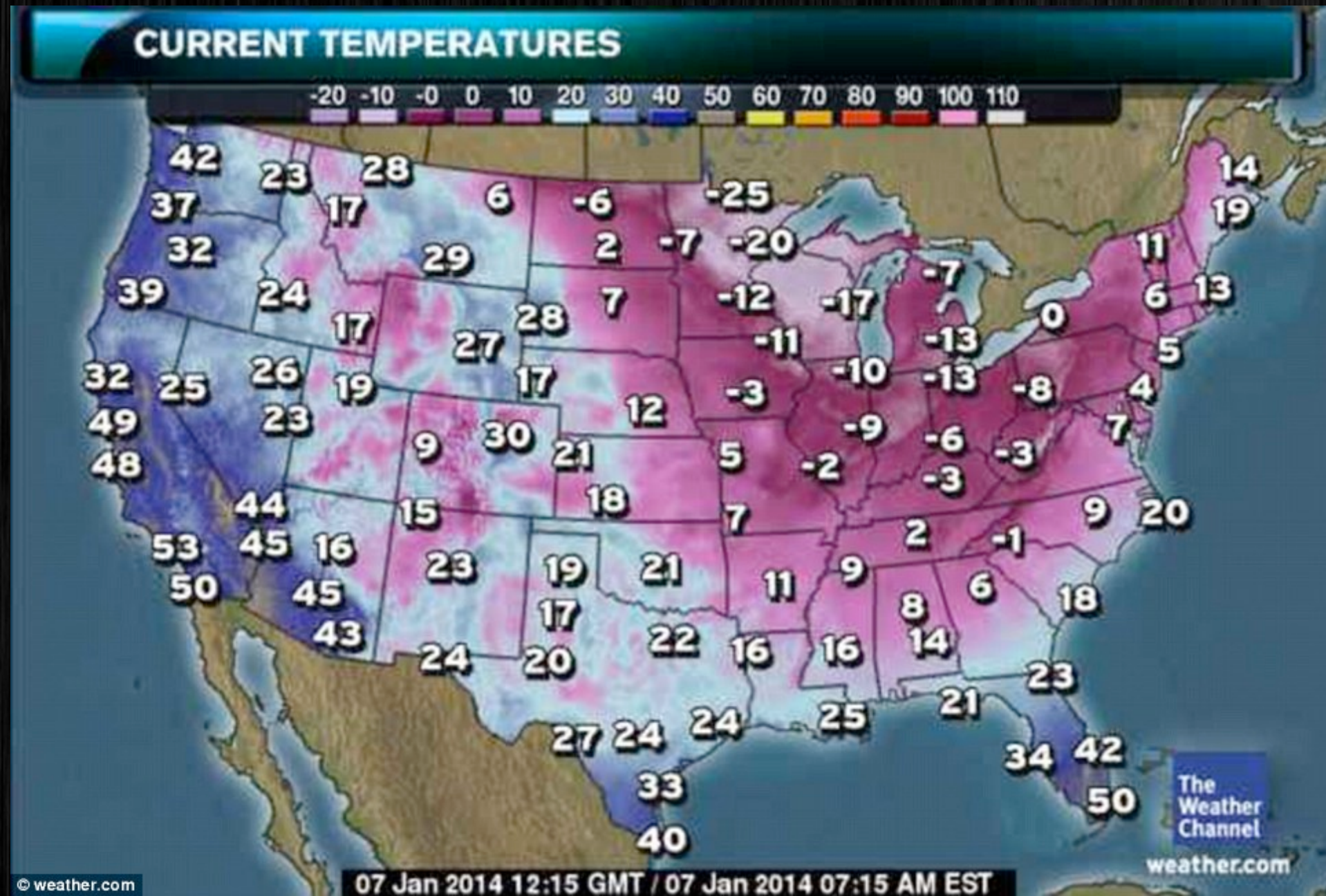
COLD



COLD



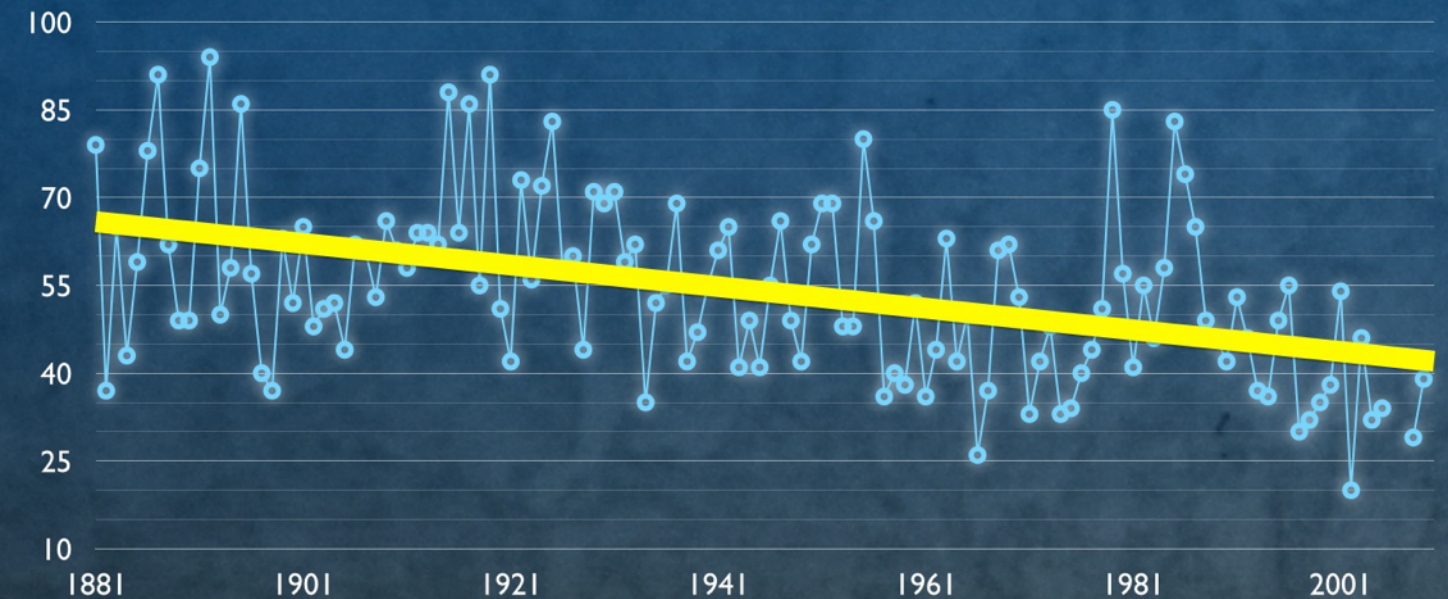
COLD



RECORD

FEWER FRIGID NIGHTS

DUBLIN: NUMBER OF NIGHTS BELOW 0°C

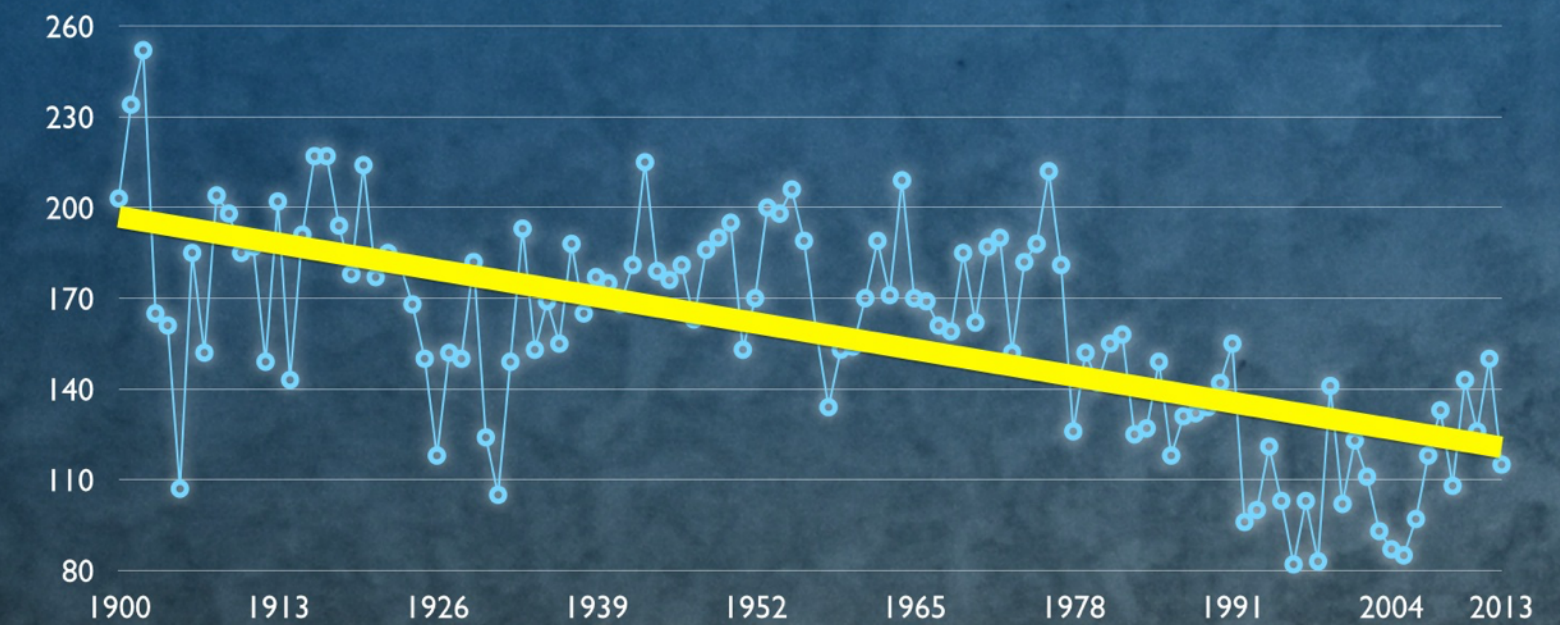


EUROPEAN CLIMATE ASSESSMENT & DATASET (ECA&D), file created on 16-01-2015
Klein Tank, A.M.G. and Coauthors, 2002. Daily dataset of 20th-century surface air temperature and precipitation series for the European Climate Assessment.
Int. J. of Climatol., 22, 1441-1453.
Data and metadata available at <http://www.ecad.eu>

CLIMATE CENTRAL

FEWER FRIGID NIGHTS

SANTA CRUZ: NUMBER OF NIGHTS BELOW 45°F

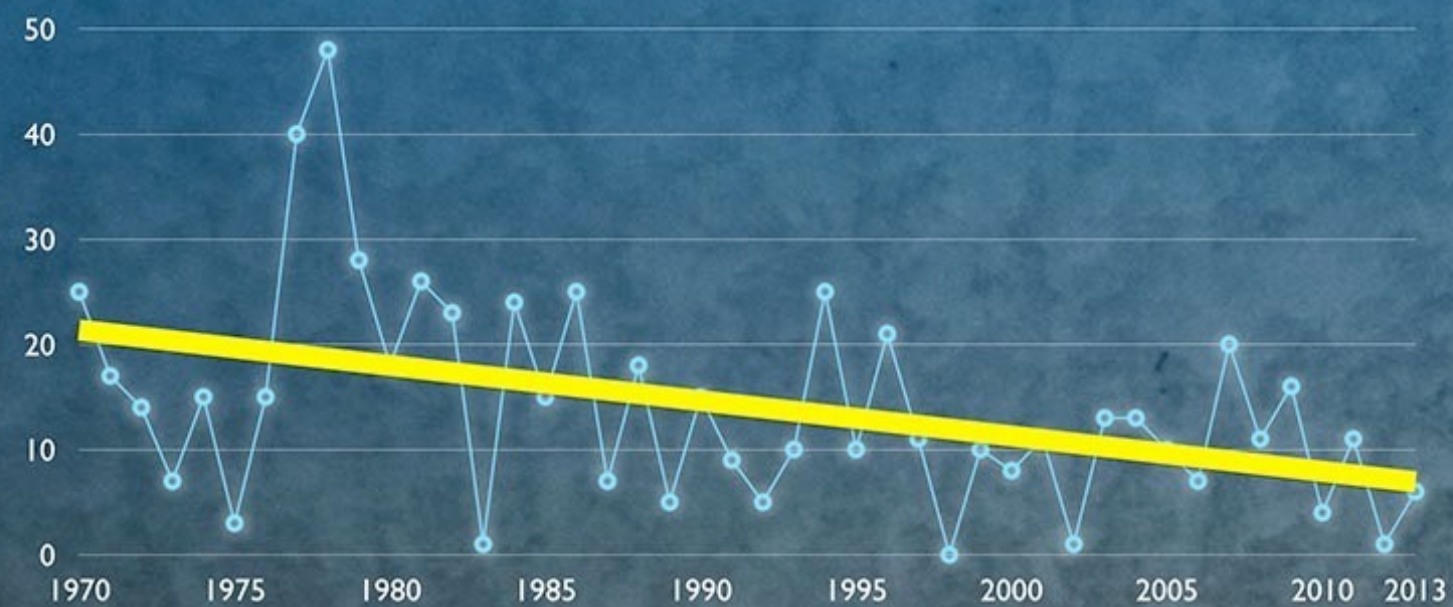


Data Source: RCC-ACIS.org - Applied Climate Information System

CLIMATE CENTRAL

FEWER FRIGID NIGHTS

CLEVELAND: NUMBER OF NIGHTS BELOW 10°F

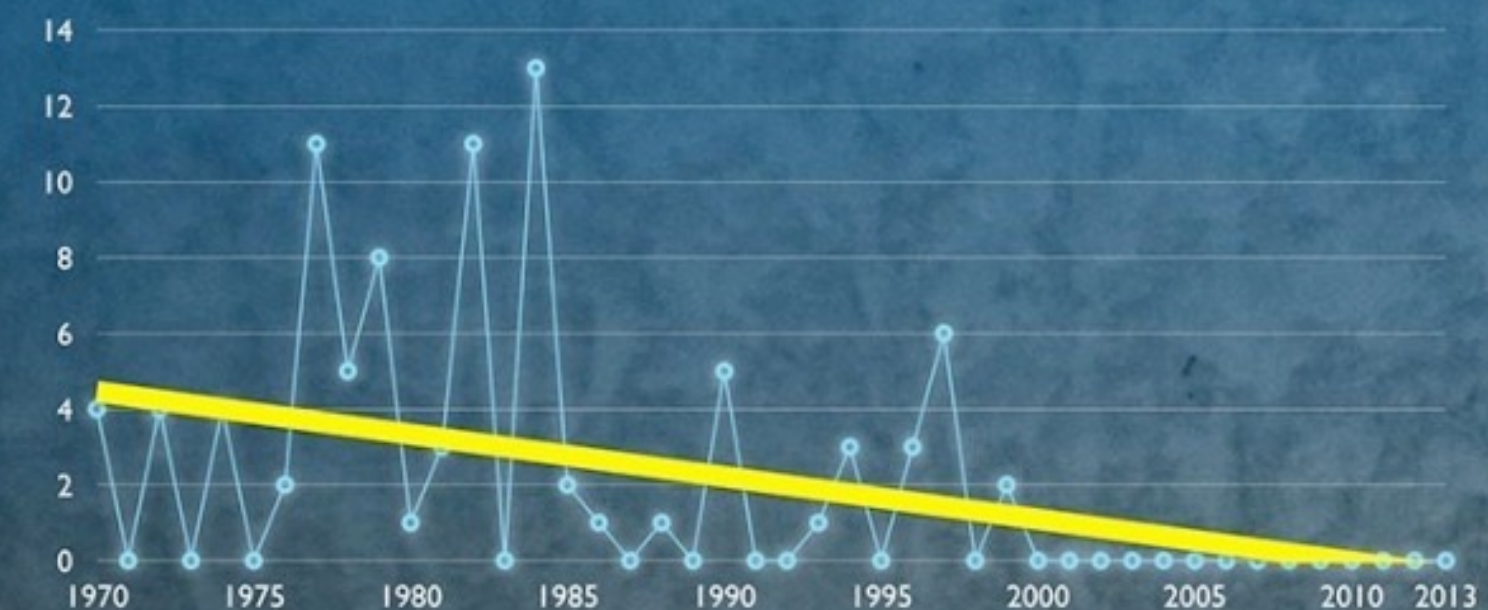


Data Source: RCC-ACIS.org - Applied Climate Information System

CLIMATE CENTRAL

FEWER FRIGID NIGHTS

ST. LOUIS: NUMBER OF NIGHTS BELOW 0°F



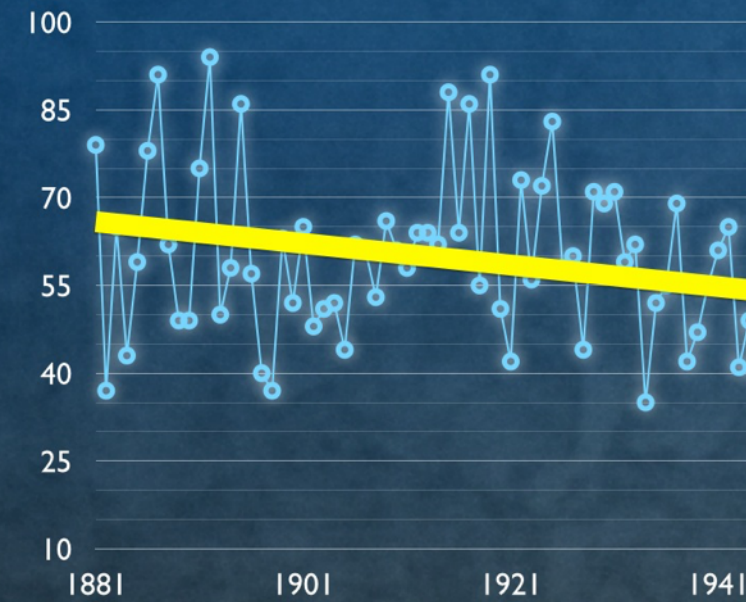
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CLIMATE CENTRAL

RECORD

FEWER FRIGID NIGHTS

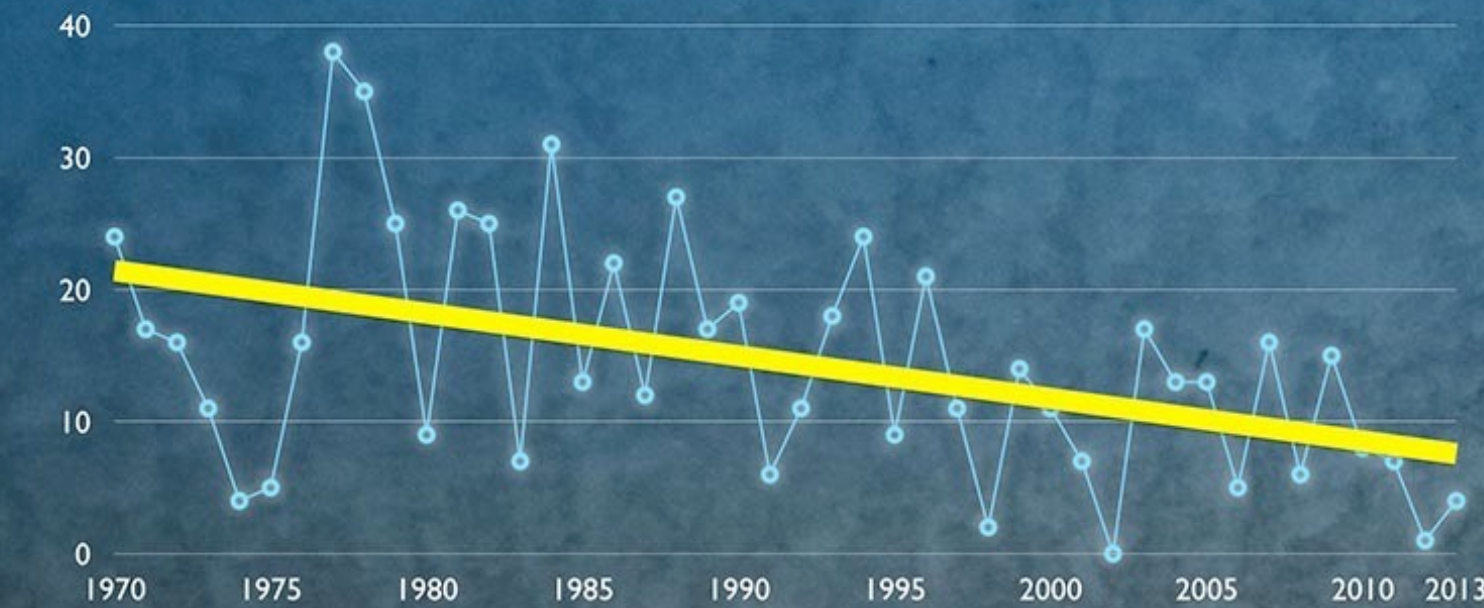
DUBLIN: NUMBER OF



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FEWER FRIGID NIGHTS

STATE COLLEGE: NUMBER OF NIGHTS BELOW 10°F

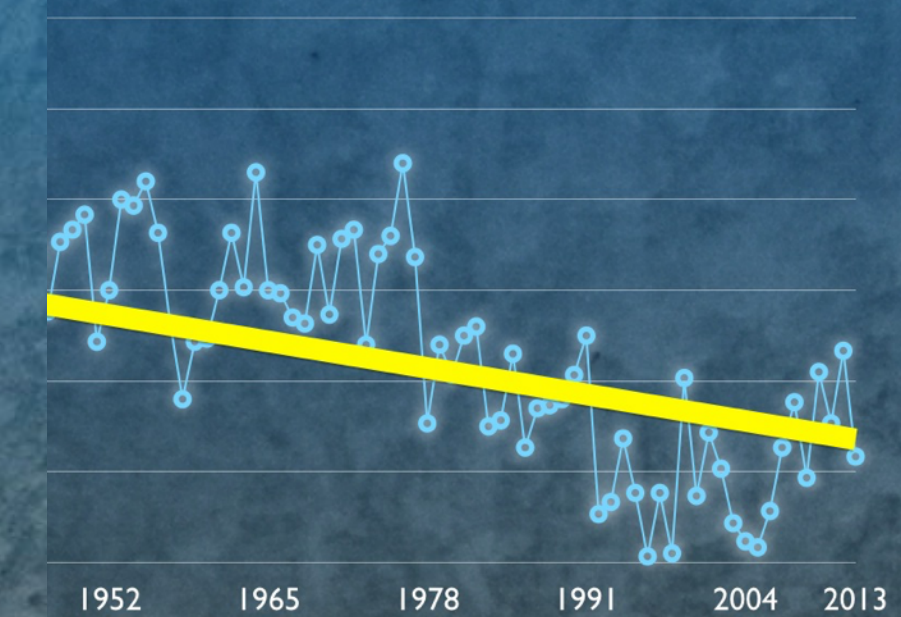


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CLIMATE CENTRAL

FEWER FRIGID NIGHTS

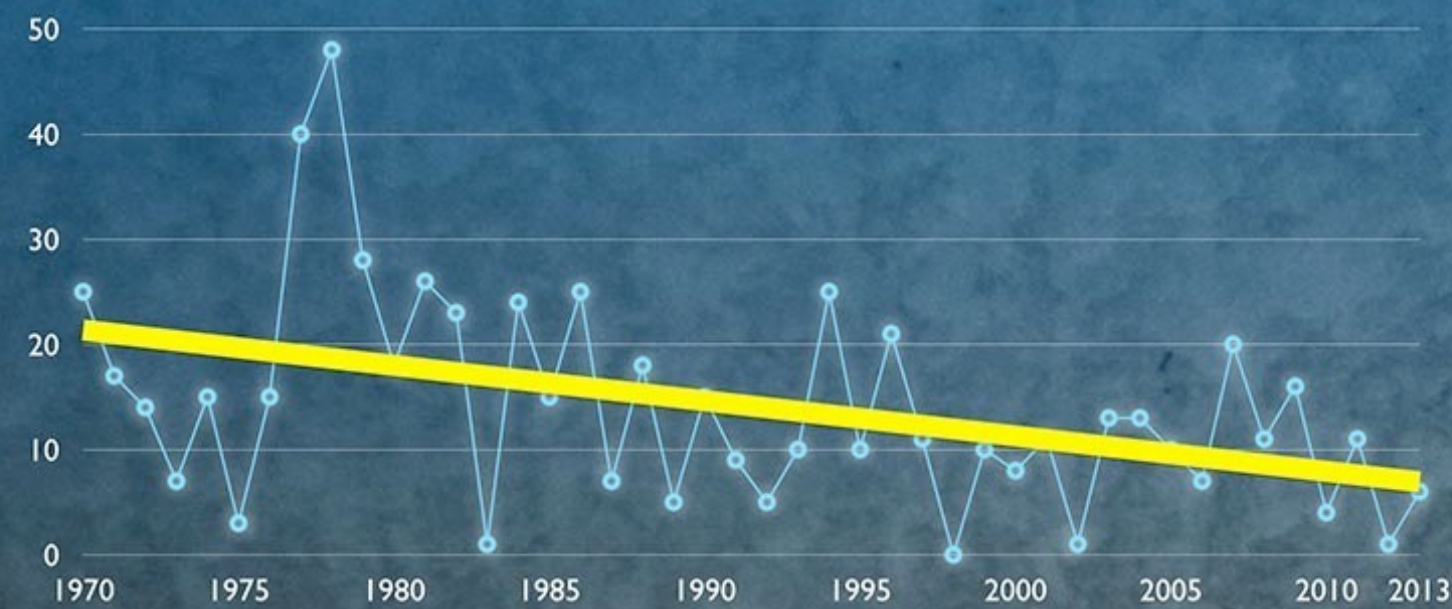
STATE COLLEGE: NUMBER OF NIGHTS BELOW 45°F



CLIMATE CENTRAL

FEWER FRIGID NIGHTS

CLEVELAND: NUMBER OF NIGHTS BELOW 10°F

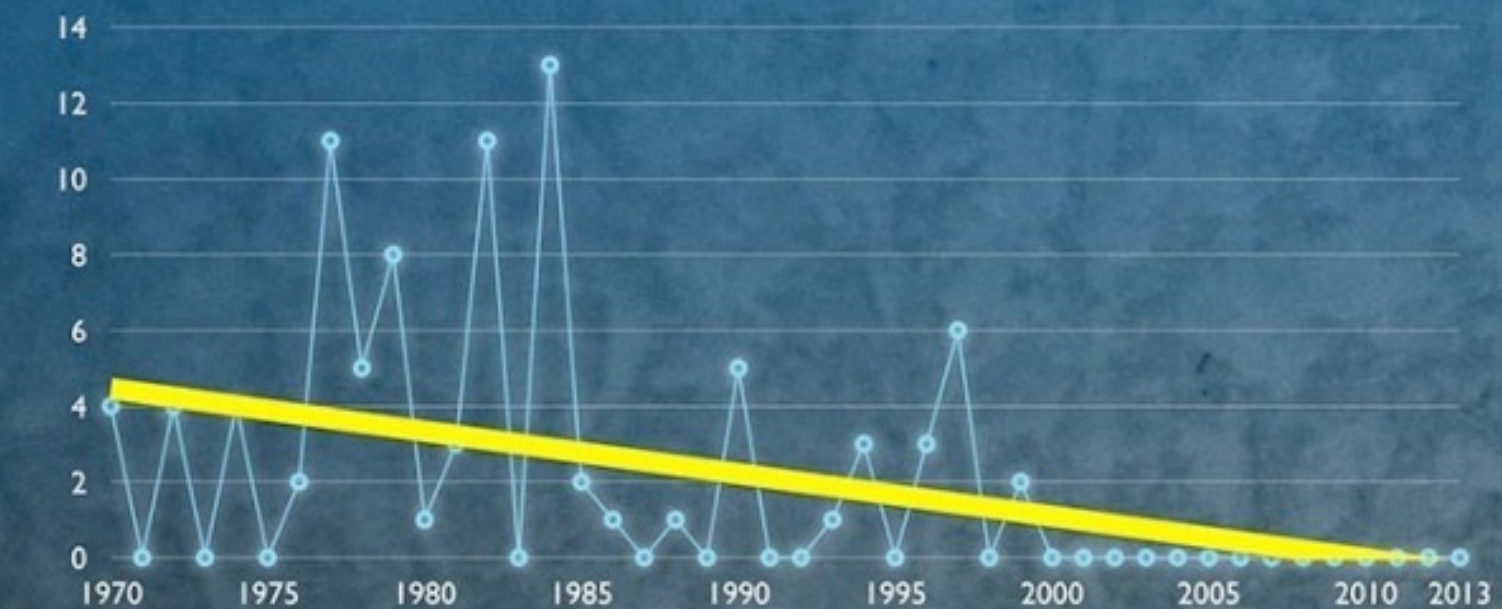


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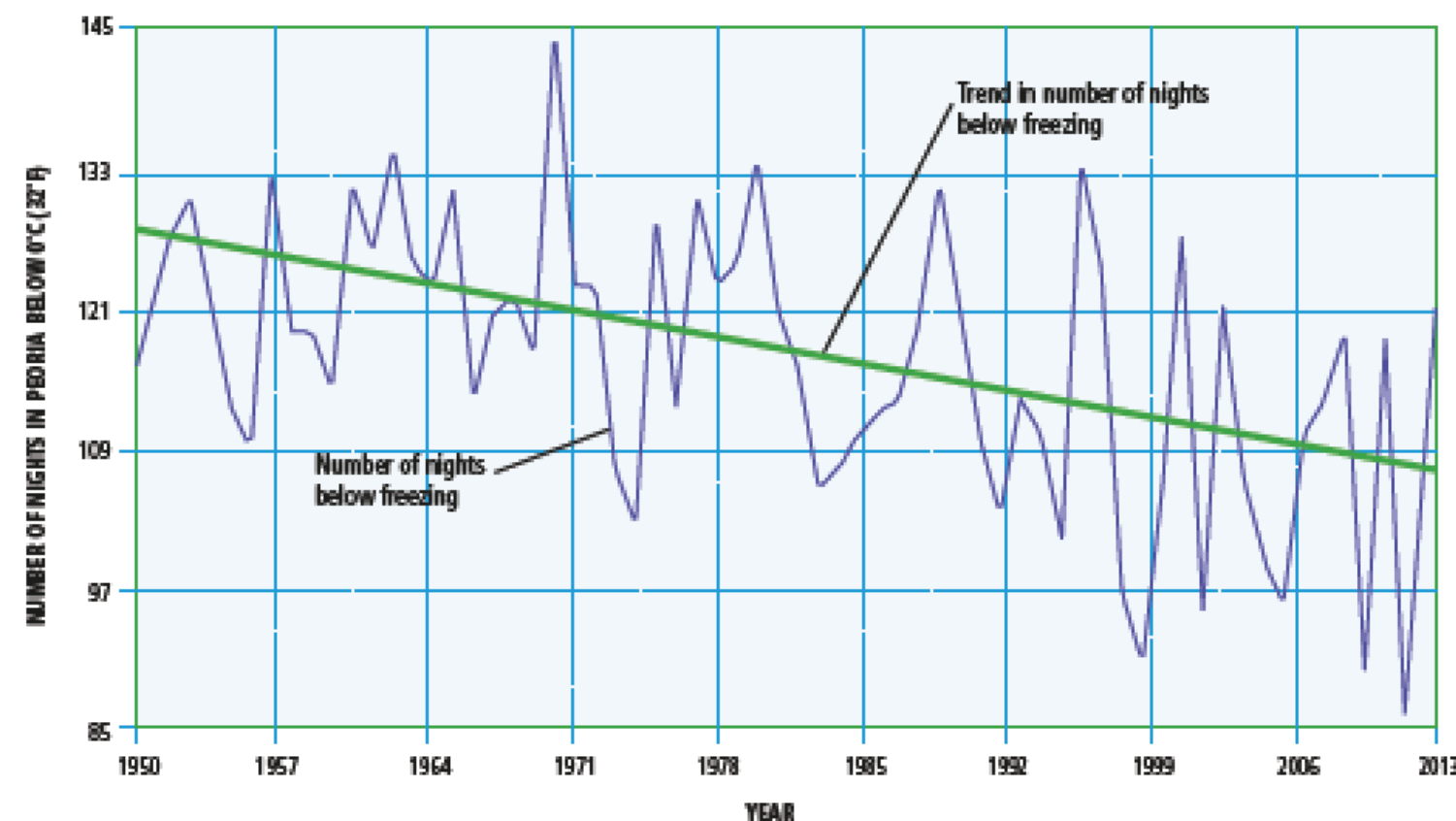
RECORD

Does a cold snap in Peoria invalidate global warming?

The winter of 2014 featured an unusually strong and persistent expansion of the polar front (◀ p.13) and a deep southward dive of the northern hemisphere jet stream into the central and eastern U.S. This southward swing brought unusually frigid Arctic air with it, especially during the pronounced cold wave of early January. Yet while conditions were unusually cold over most of the eastern half of the U.S., no all-time cold records were broken. Weather historian Chris Burt of the Weather Channel's *Weather Underground* site noted: "The only significant thing about the cold wave is how long it has

been since a cold wave of this force has hit for some portions of the country—18 years, to be specific. Prior to 1996, cold waves of this intensity occurred pretty much every 5–10 years." In other words, winter 2014 was what we sometimes refer to as an "old fashioned winter," at least for part of the U.S.—a part amounting to less than 1% of the global surface area.

The larger context for this event is that most of the rest of North America, and indeed much of the globe, was unusually warm over that same time frame. Alaska experienced record warmth, and global average temperatures for 2013 had just

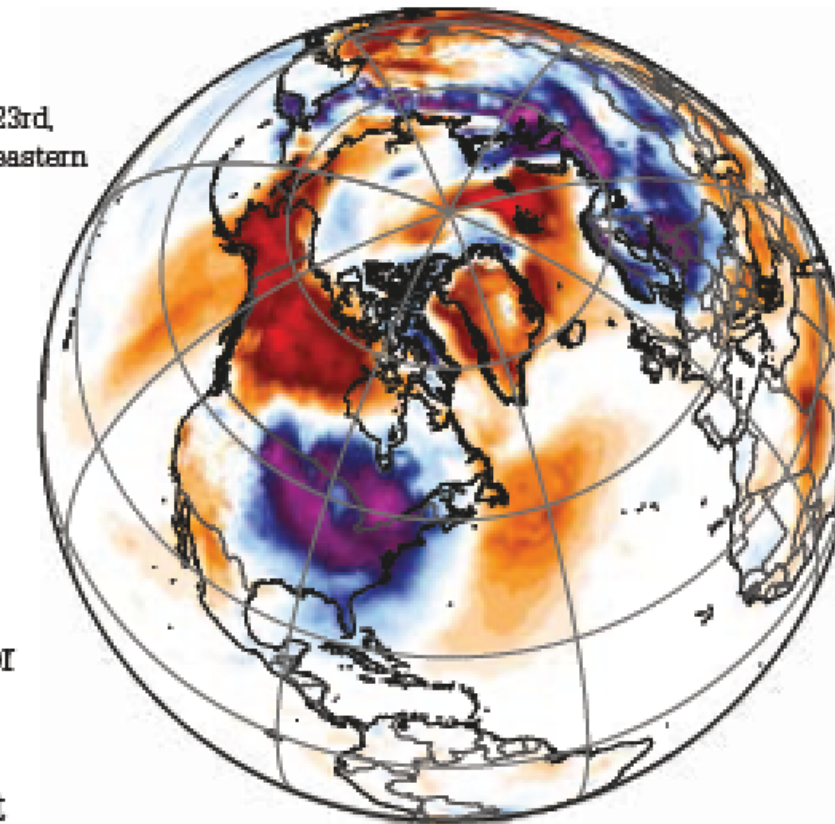
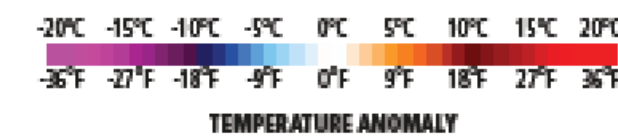


FEWER FRIGID NIGHTS IN PEORIA

Although the winter of 2014 was unusually cold over much of the eastern part of the U.S., the overall trend is for a decrease in extreme cold. This is exemplified by the number of cold nights (under 0°C/32°F) in Peoria, Illinois, which has generally decreased over the past half-century.

LARGE-SCALE TEMPERATURE PATTERN IN JANUARY 2014

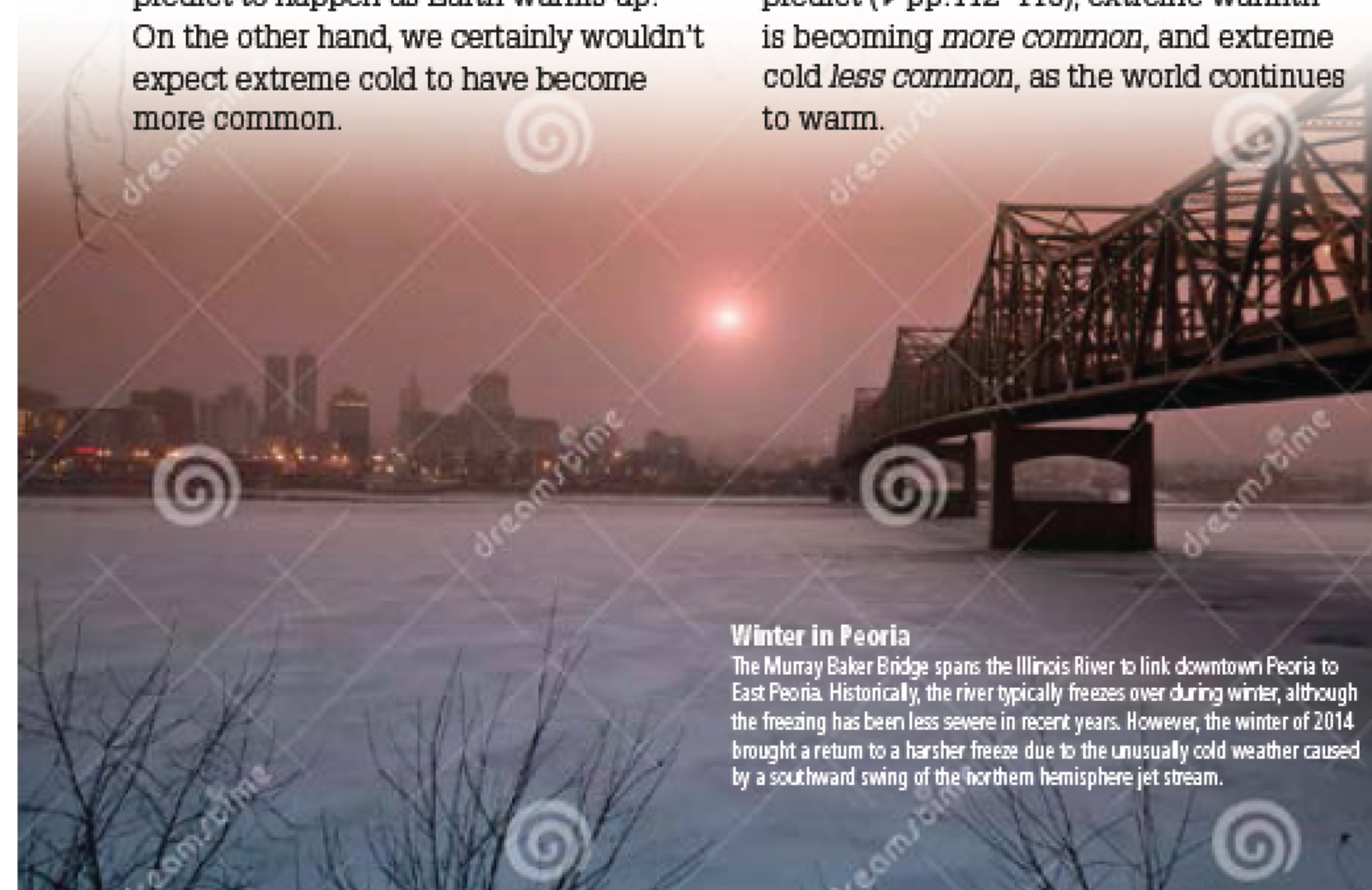
This image of surface temperatures on January 23rd, 2014 reveals a large cold area over much of the eastern and northern part of the U.S., with temperatures about 20°C (36°F) below the 1979–2000 average.



finished up 4th all-time warmest. And while the boreal winter season December–January was rather cold for the eastern half of the U.S., it was the warmest on record down below in Australia, and the 8th overall warmest for the globe.

We have already seen that during the past decade the U.S. has been breaking all-time records for warmth at nearly twice the rate we would expect from chance alone (◀ pp.56–57). This is just what models predict to happen as Earth warms up. On the other hand, we certainly wouldn't expect extreme cold to have become more common.

So has it? The answer is a resounding "no." For the vast majority of locations in the U.S., cold extremes have declined significantly as the globe has warmed. Just as we expect, and as climate models predict (▶ pp.112–113), extreme warmth is becoming *more common*, and extreme cold *less common*, as the world continues to warm.



Winter in Peoria

The Murray Baker Bridge spans the Illinois River to link downtown Peoria to East Peoria. Historically, the river typically freezes over during winter, although the freezing has been less severe in recent years. However, the winter of 2014 brought a return to a harsher freeze due to the unusually cold weather caused by a southward swing of the northern hemisphere jet stream.

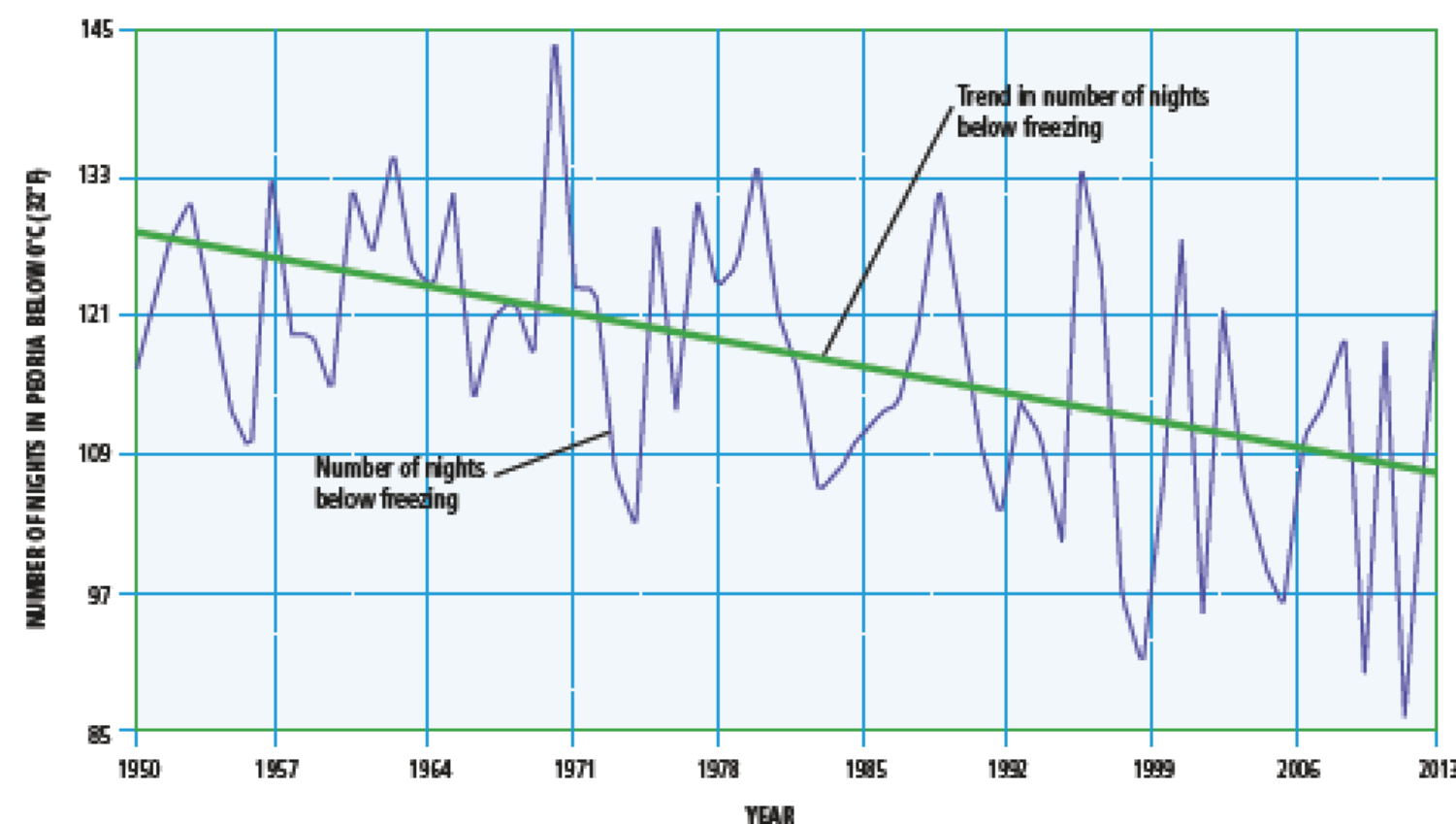
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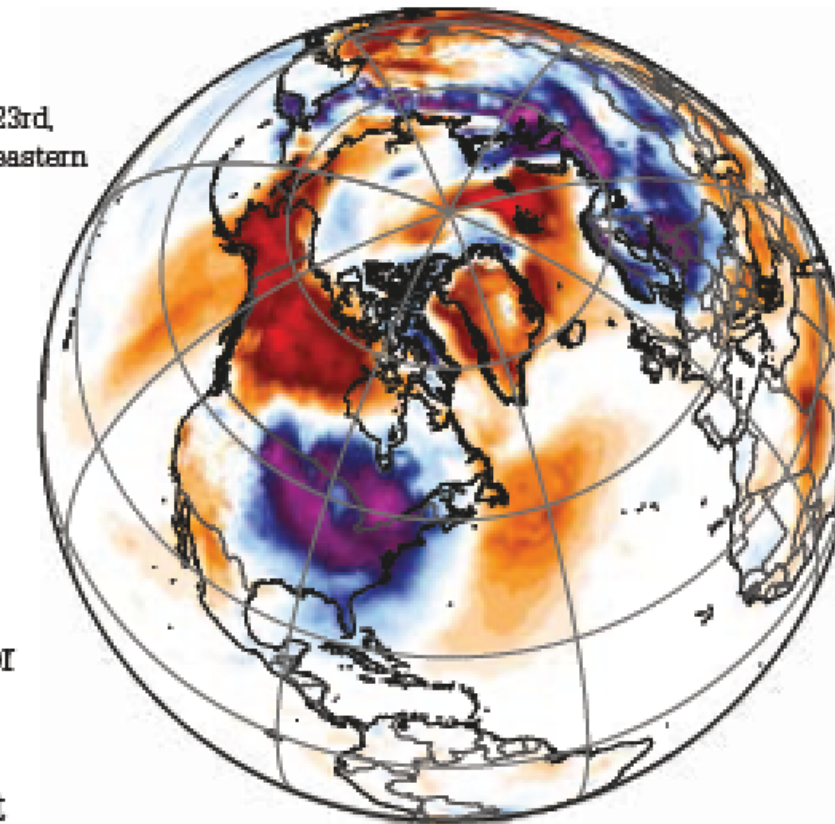
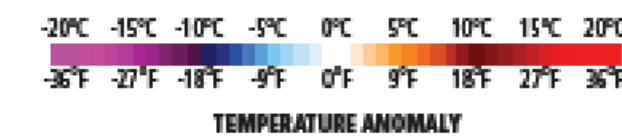


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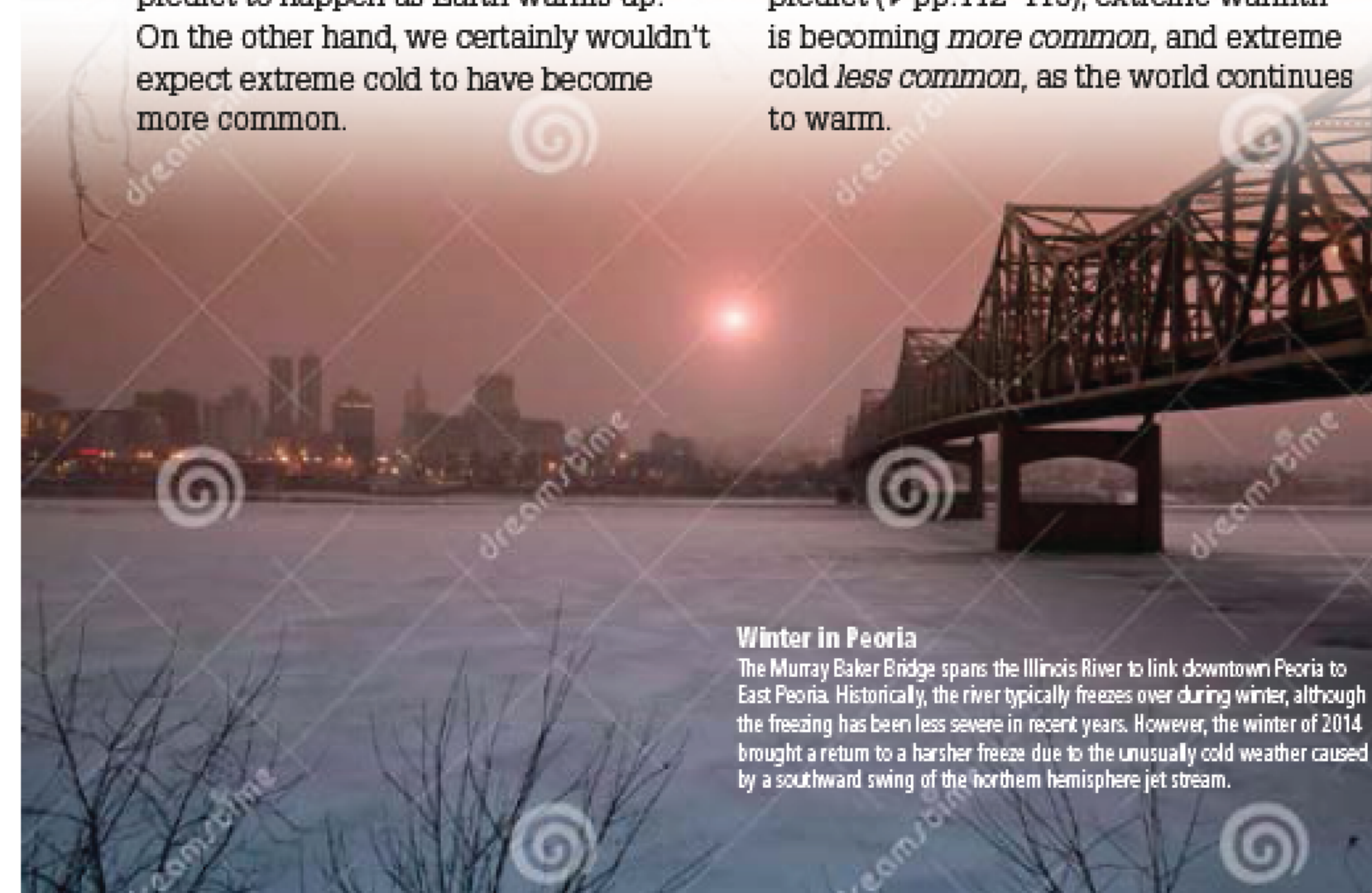
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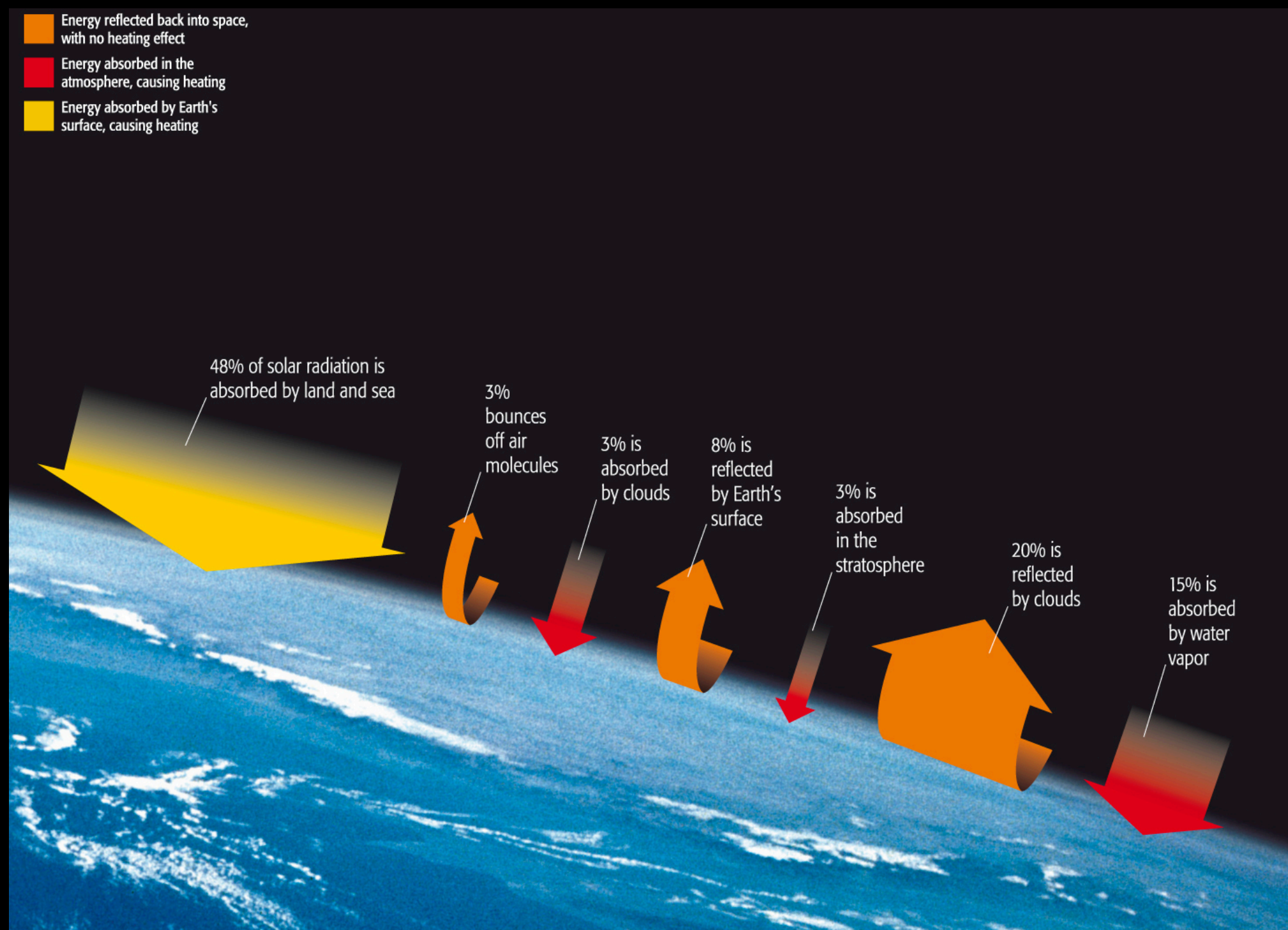
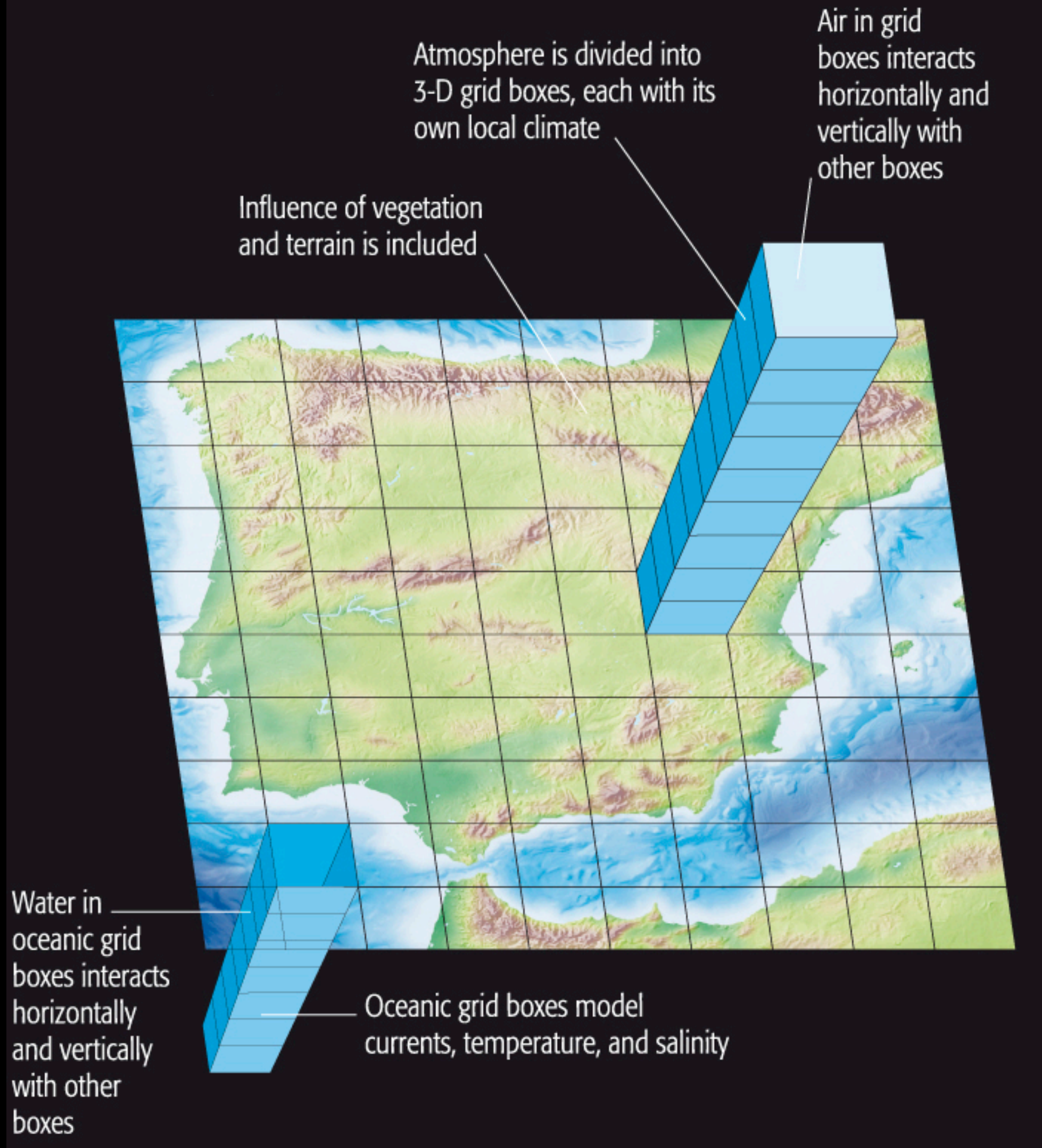


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MODELS

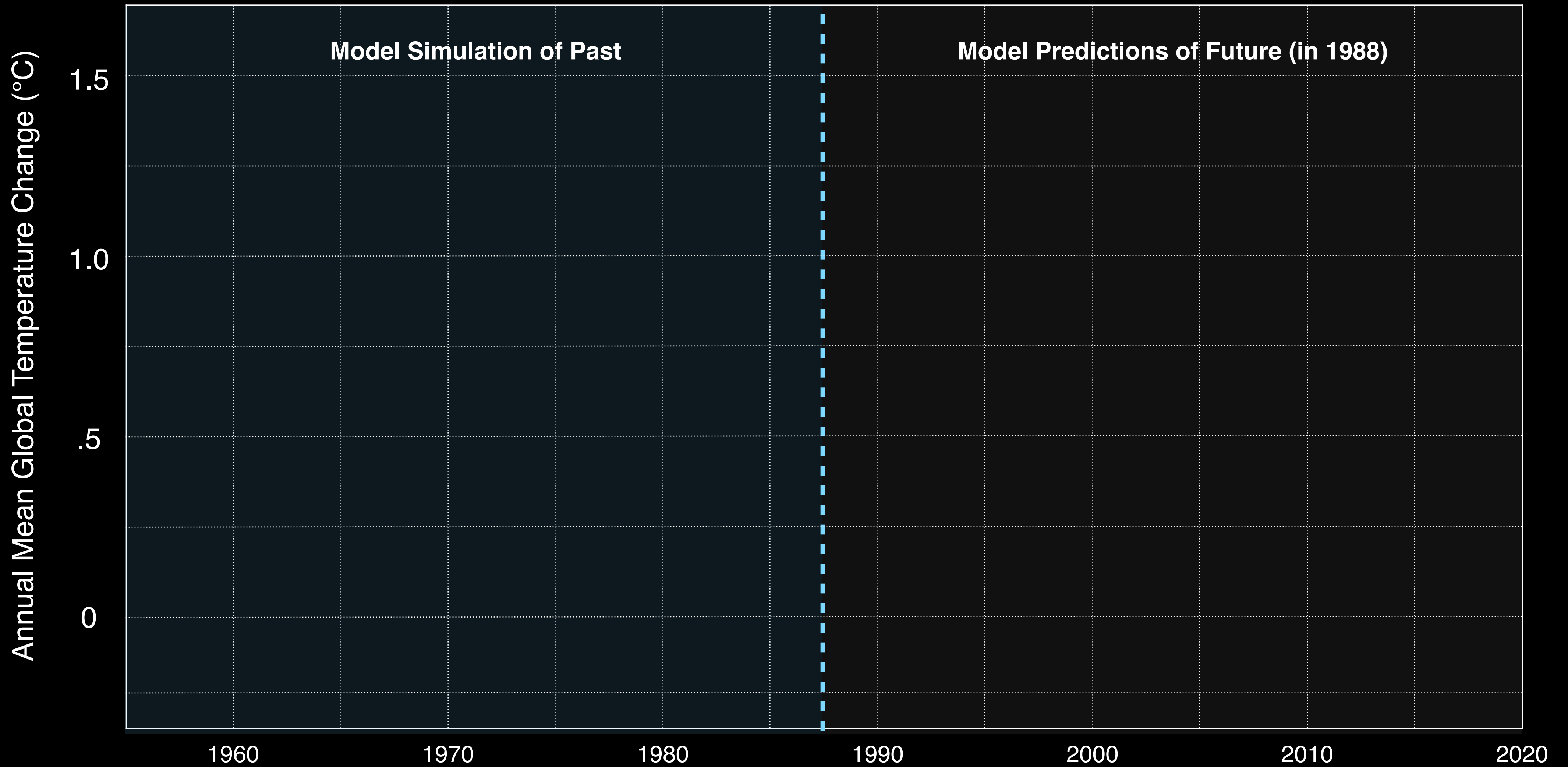
Climate Models



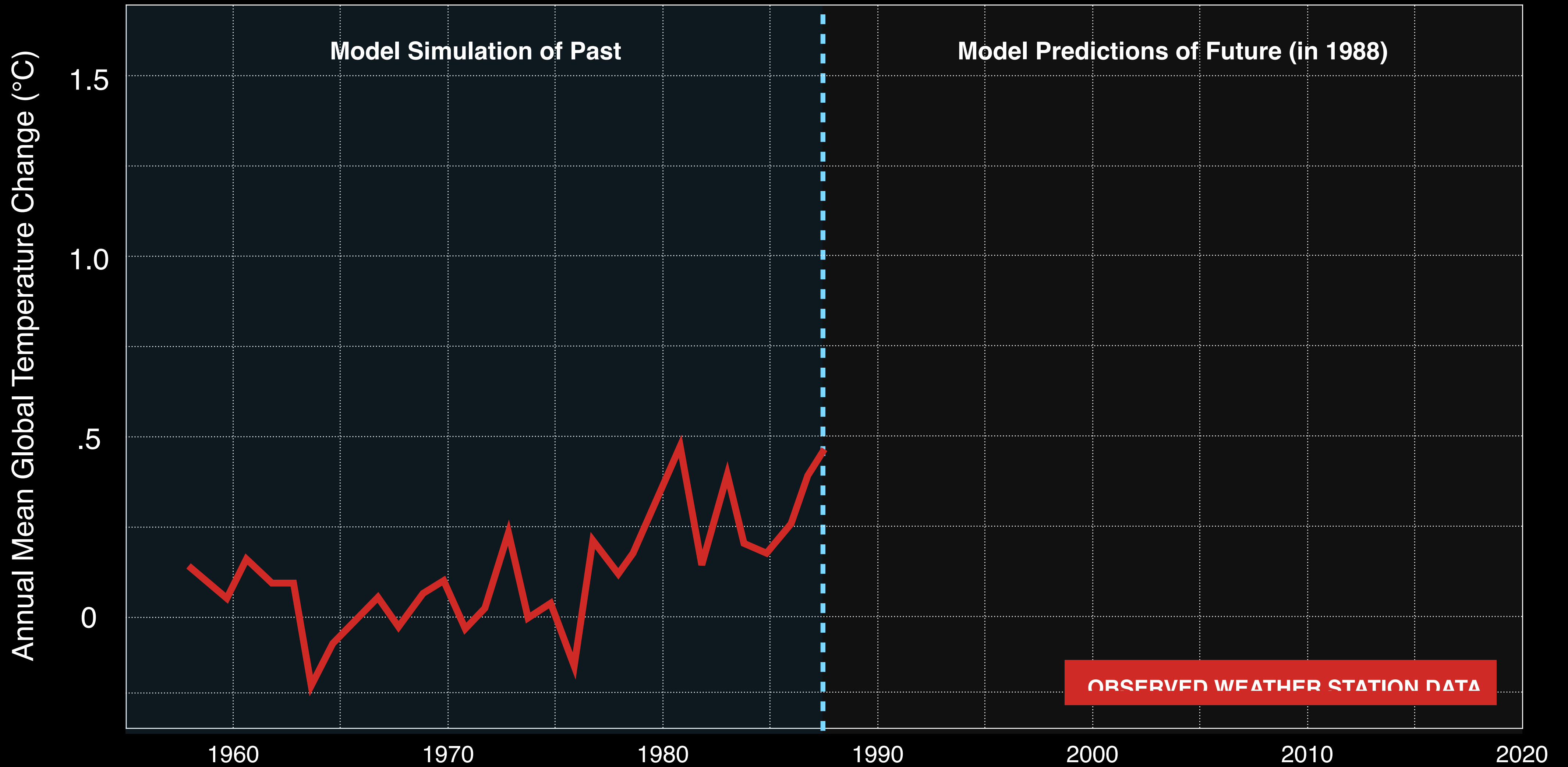
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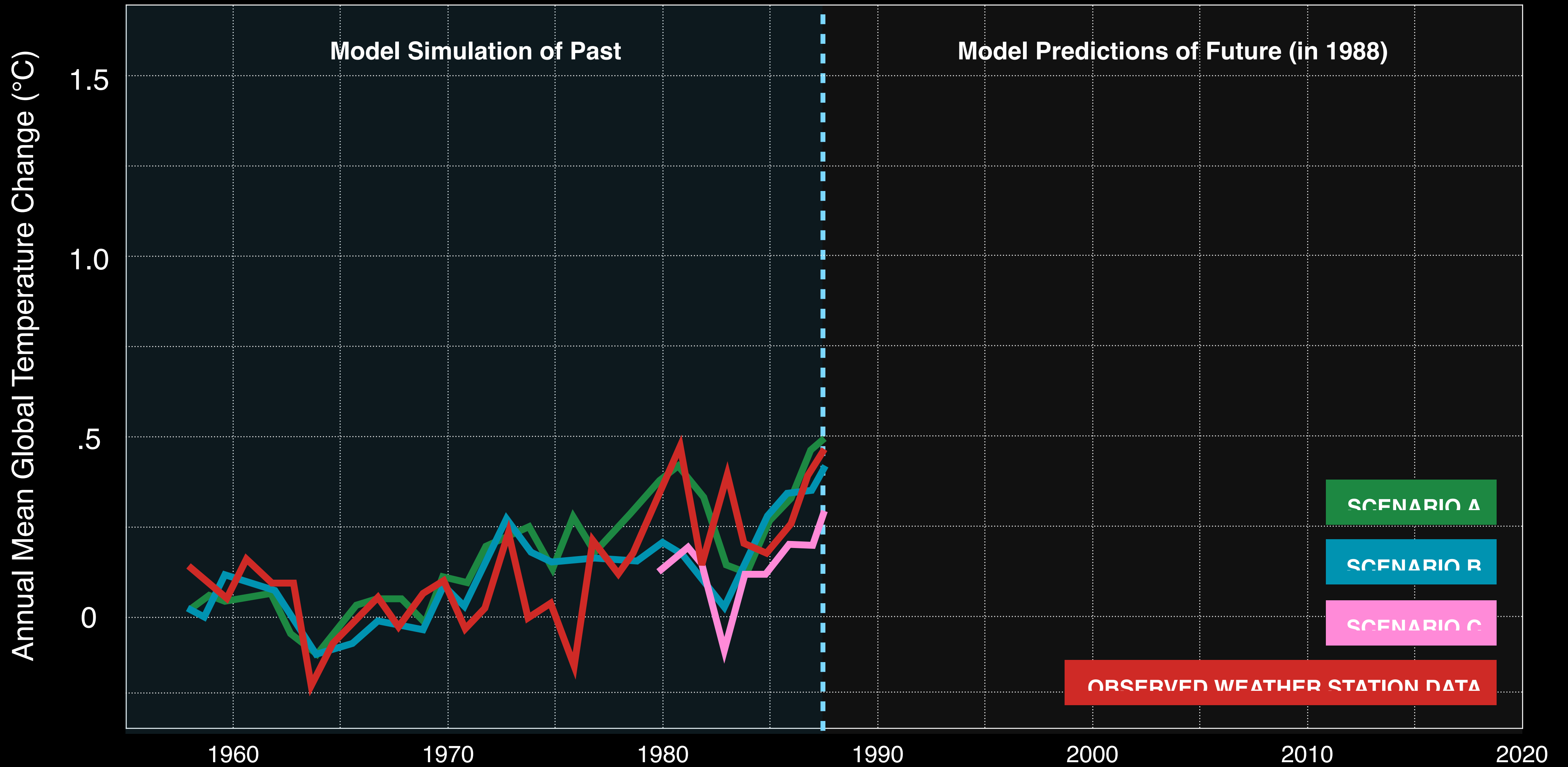
Hansen's 1988 Predictions



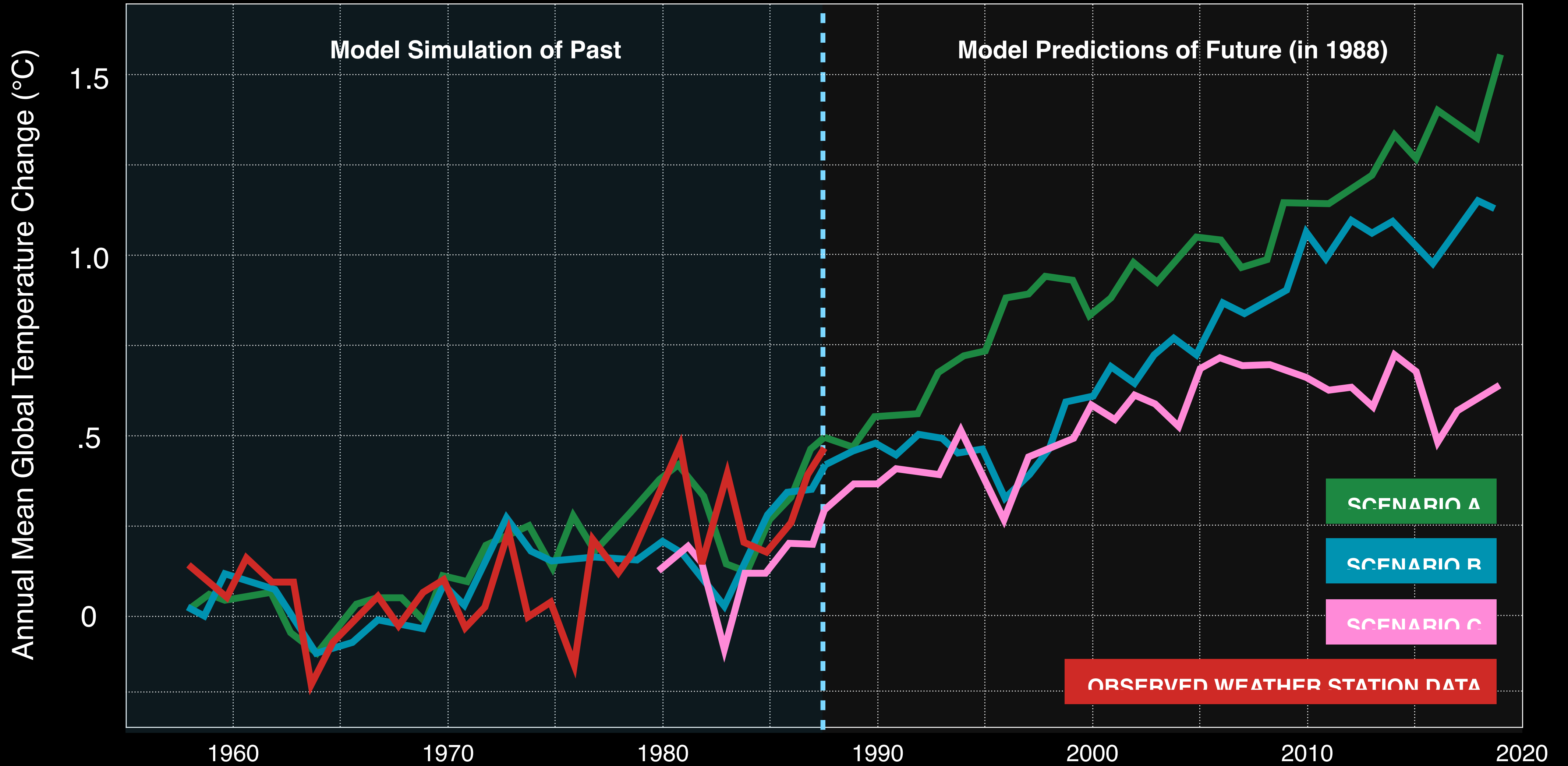
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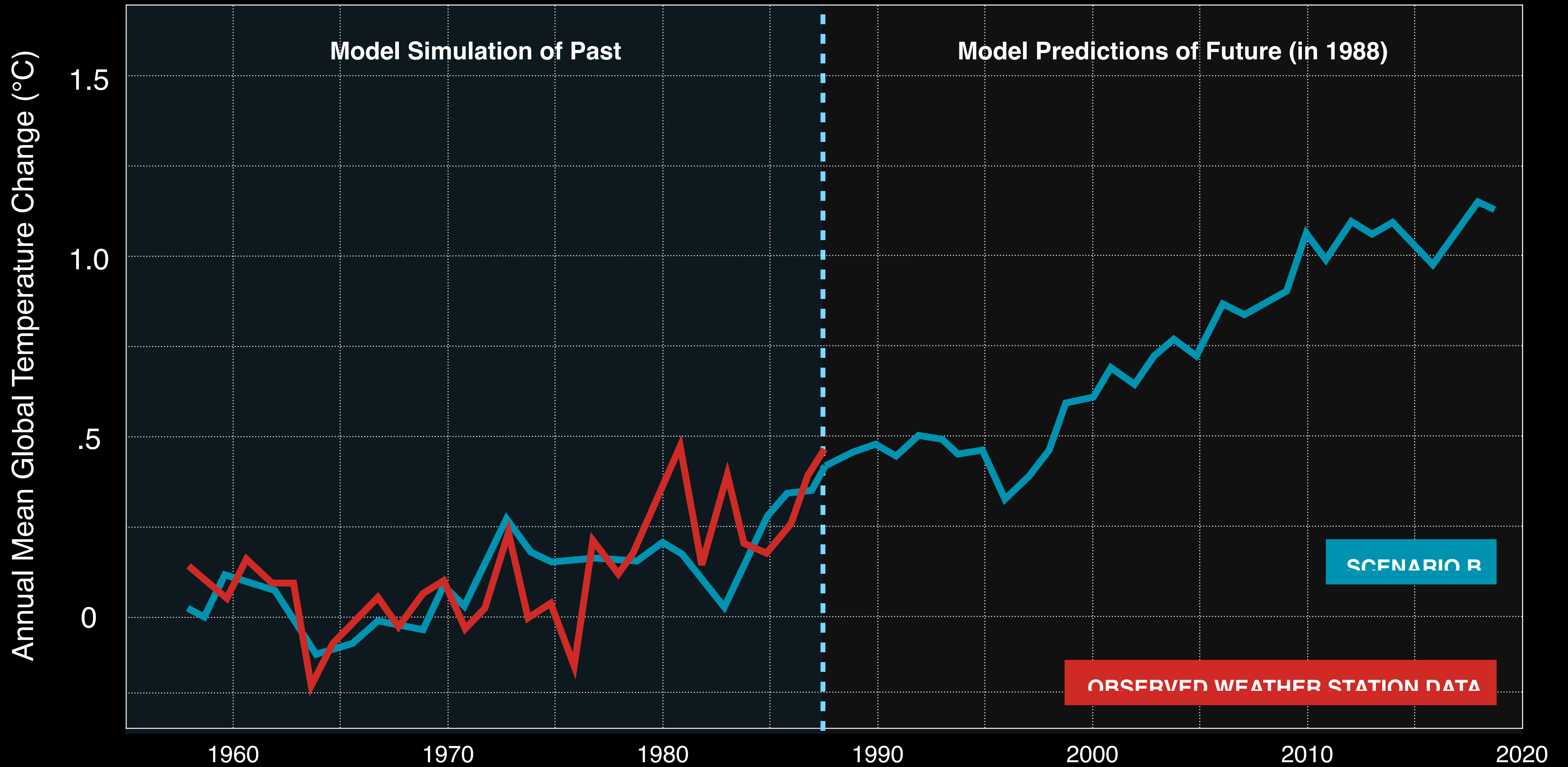
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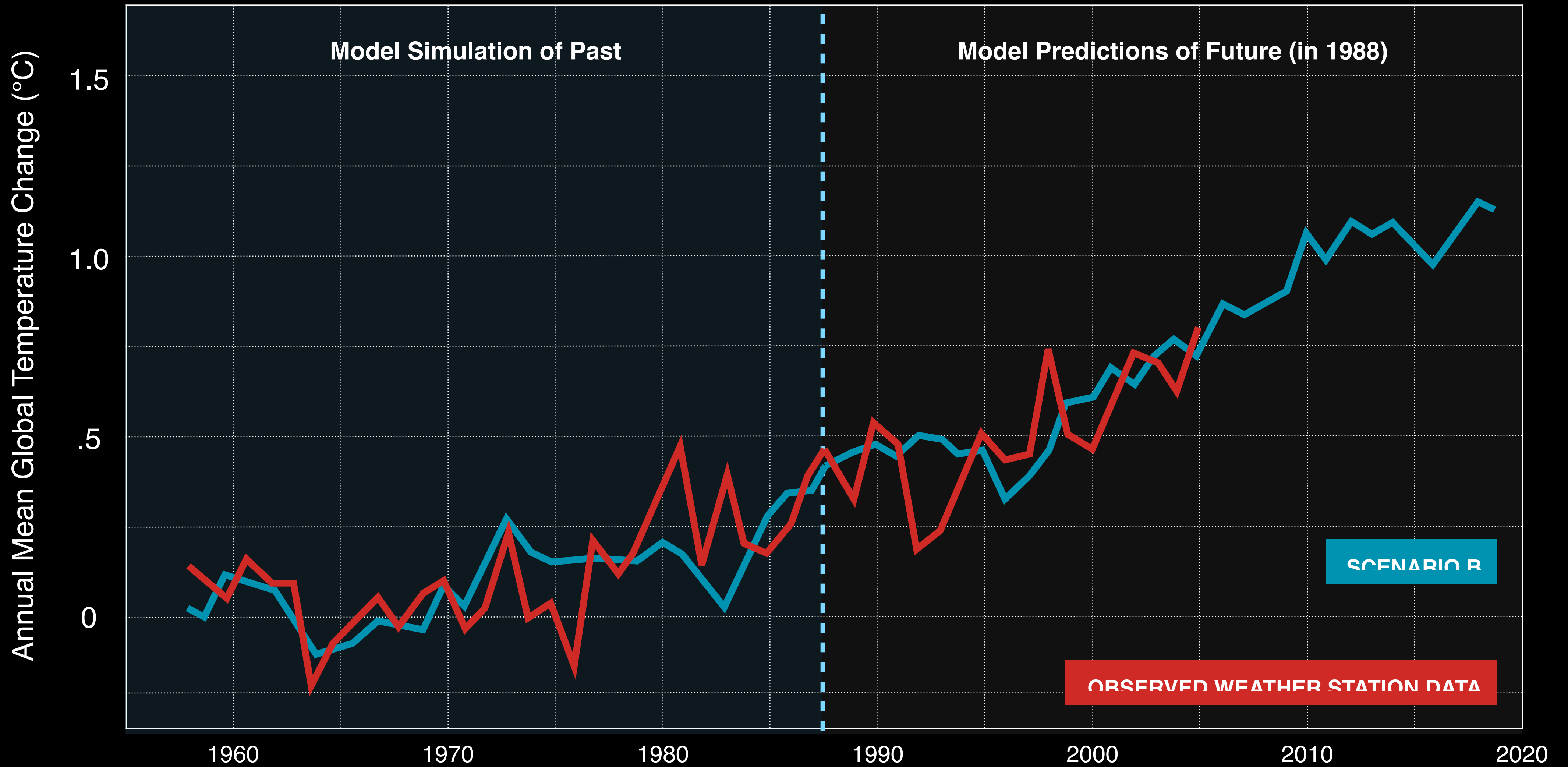
Hansen's 1988 Predictions



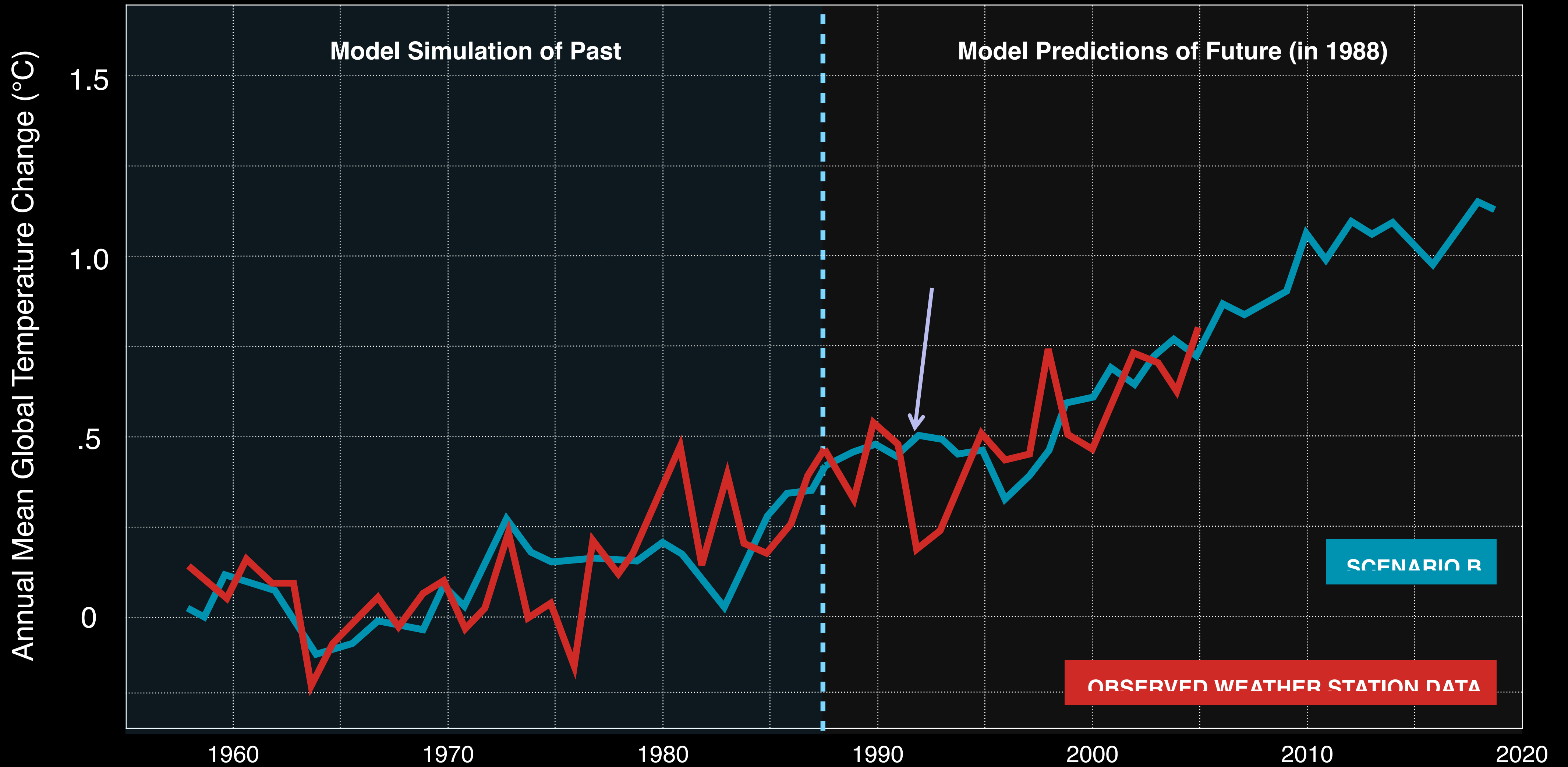
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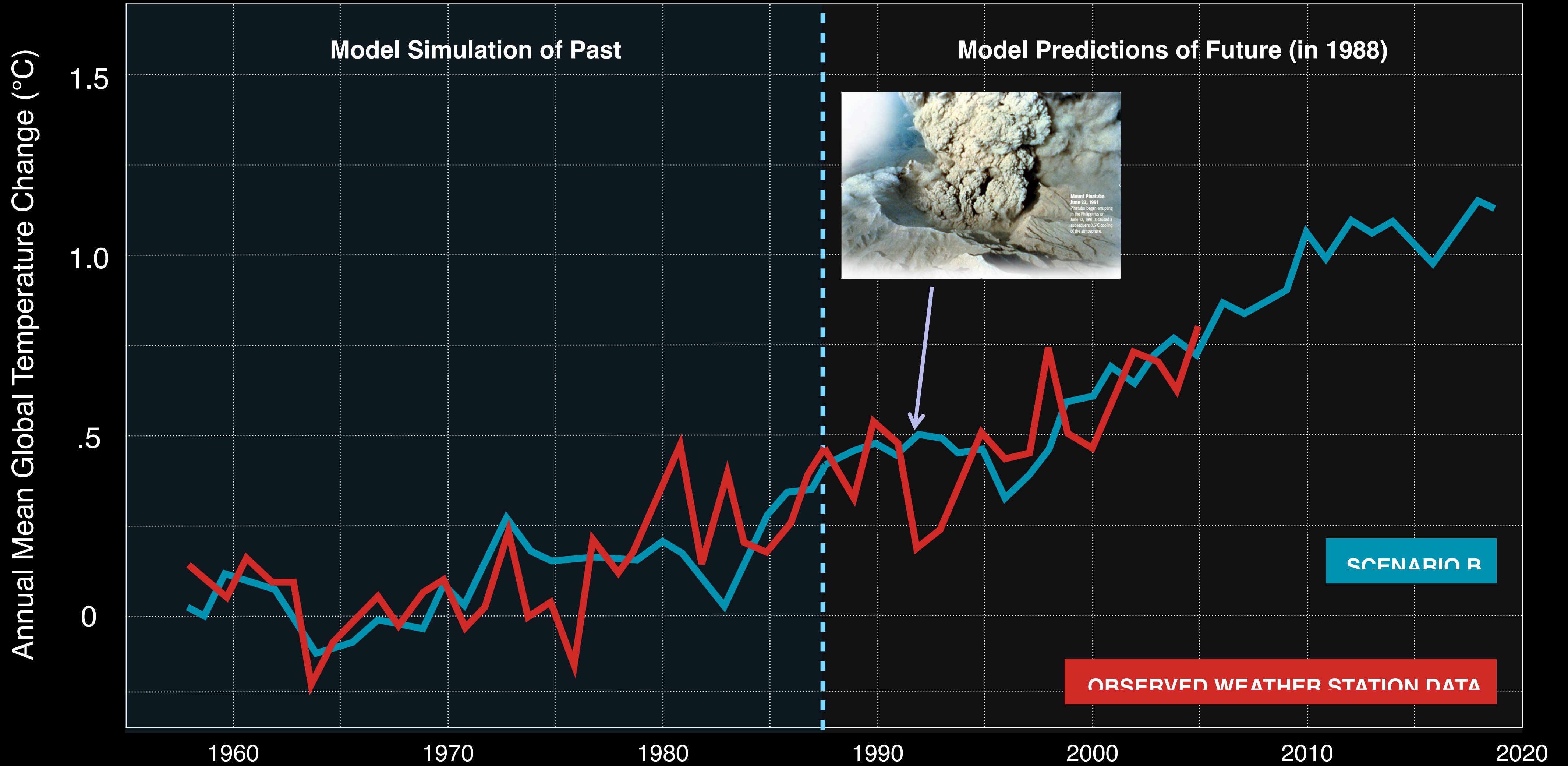
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Hansen's 1988 Predictions

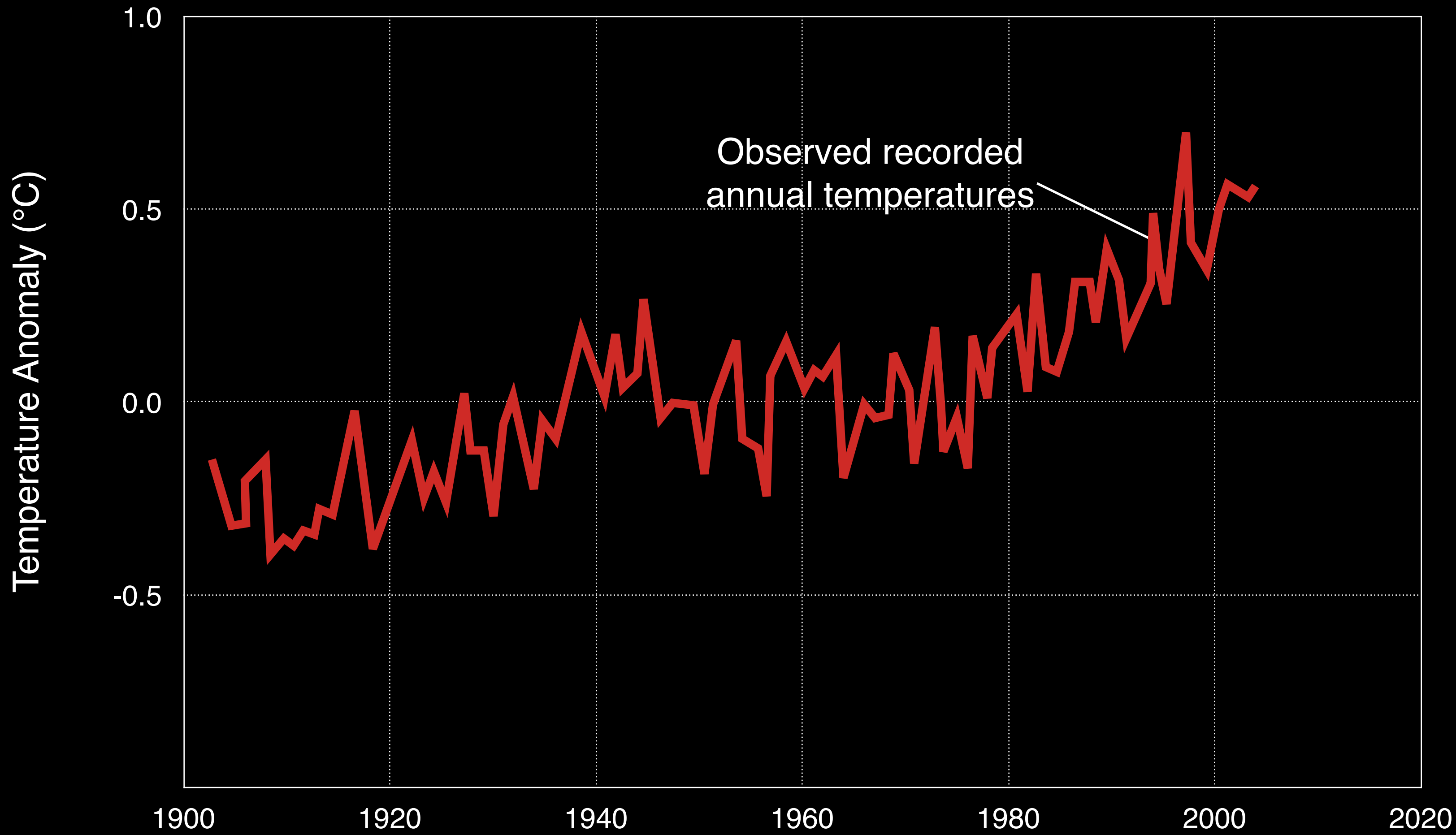


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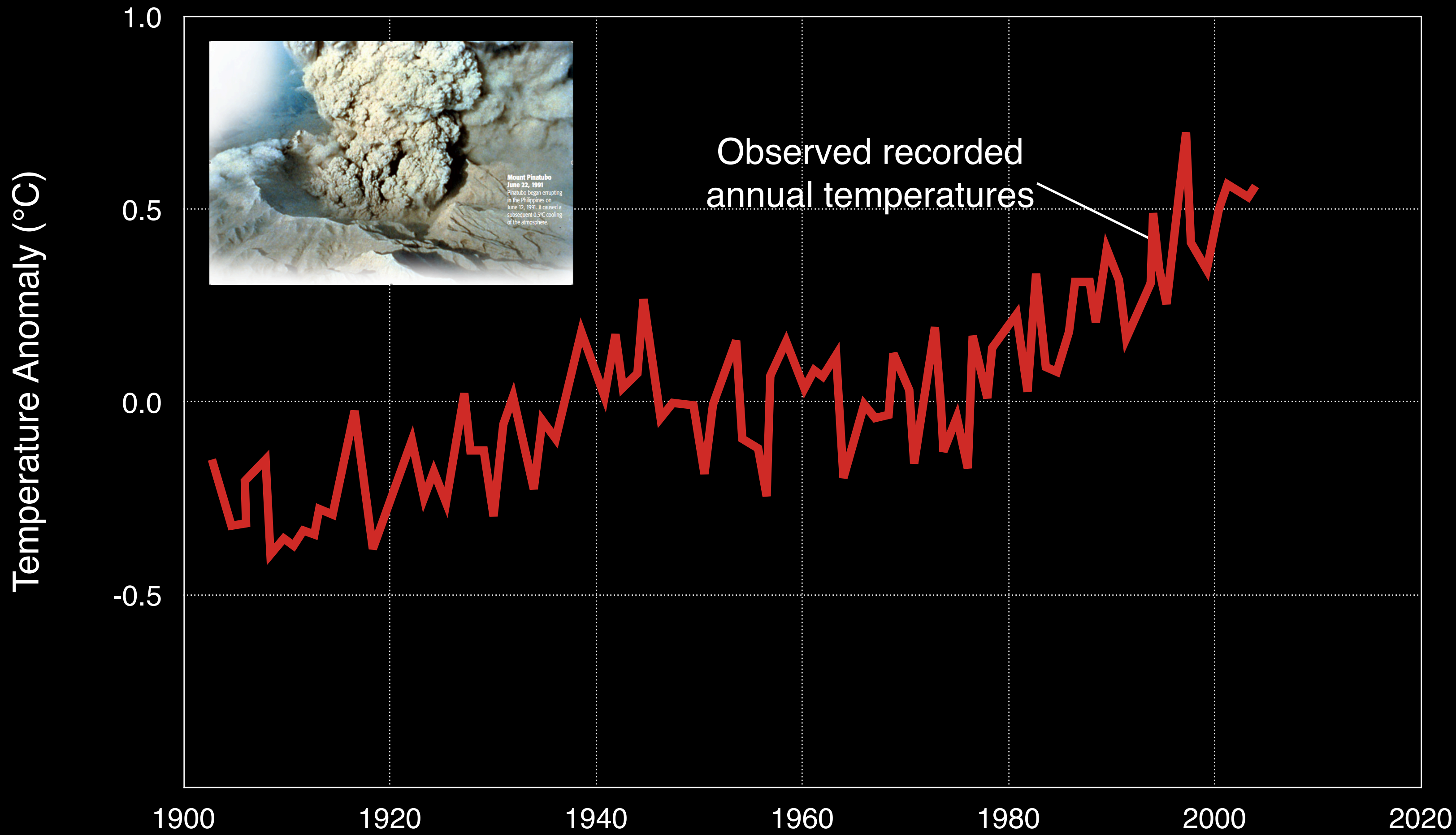
Observed/Predicted Climate Trends

With Natural Factors Only



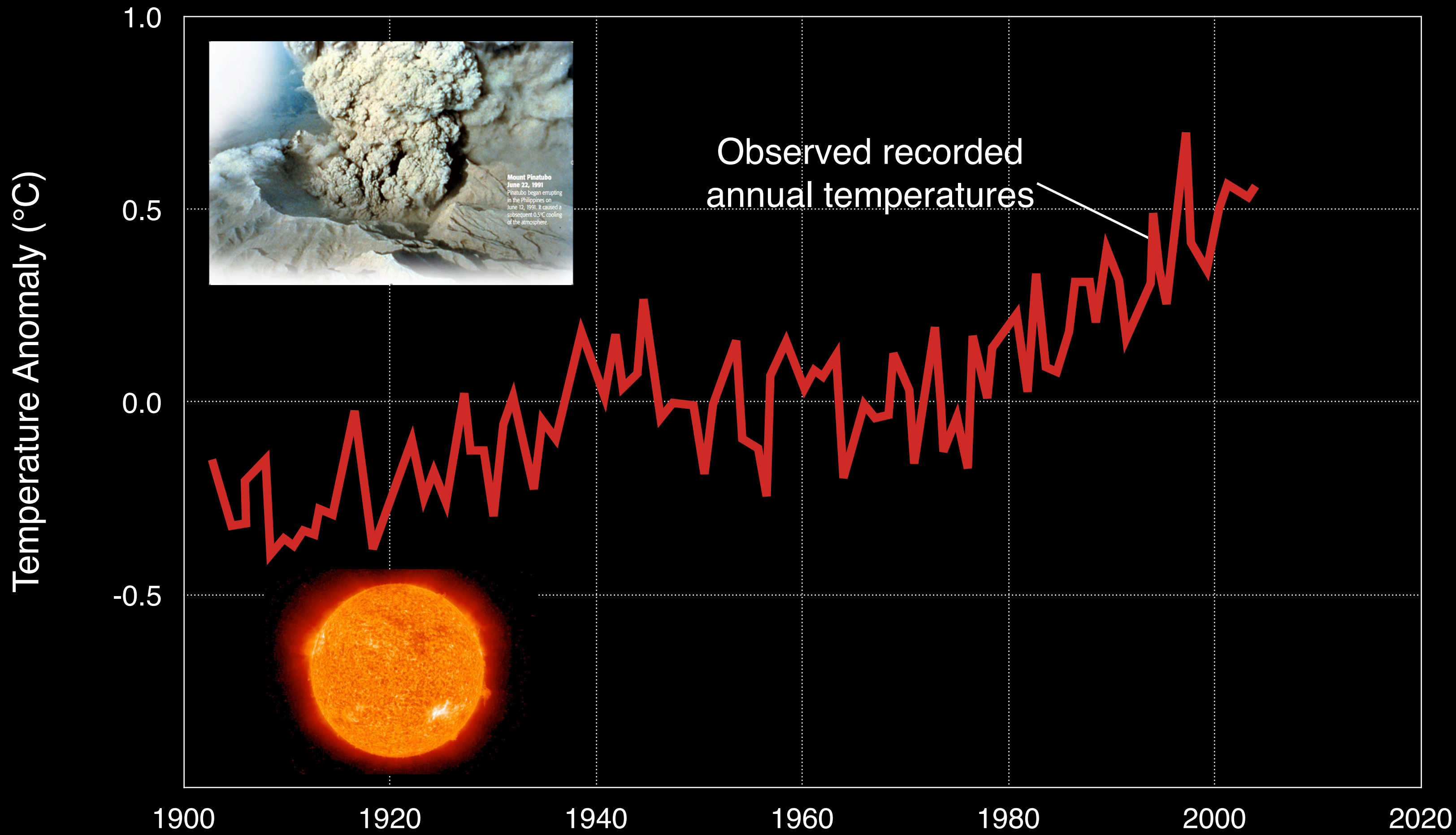
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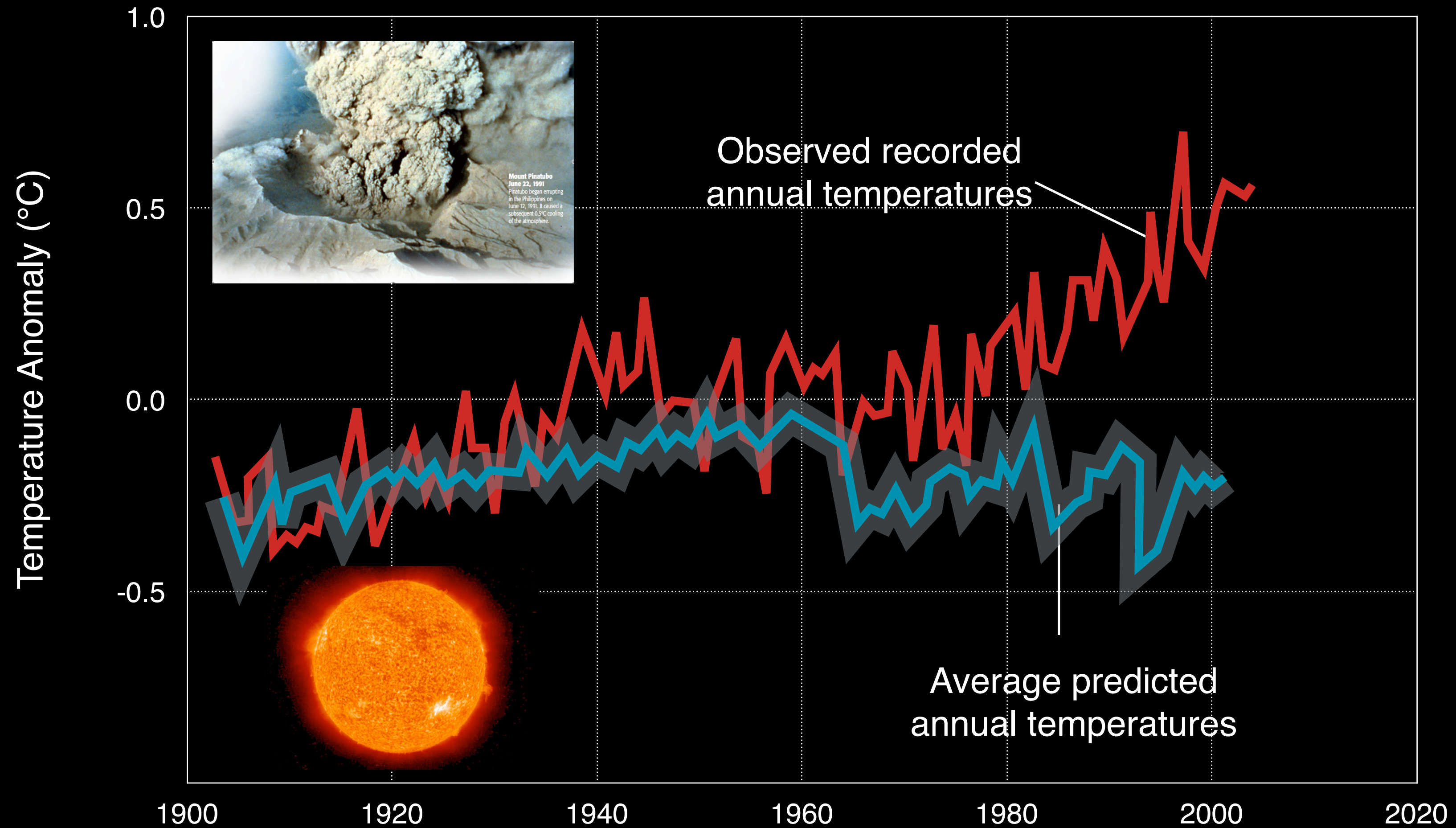
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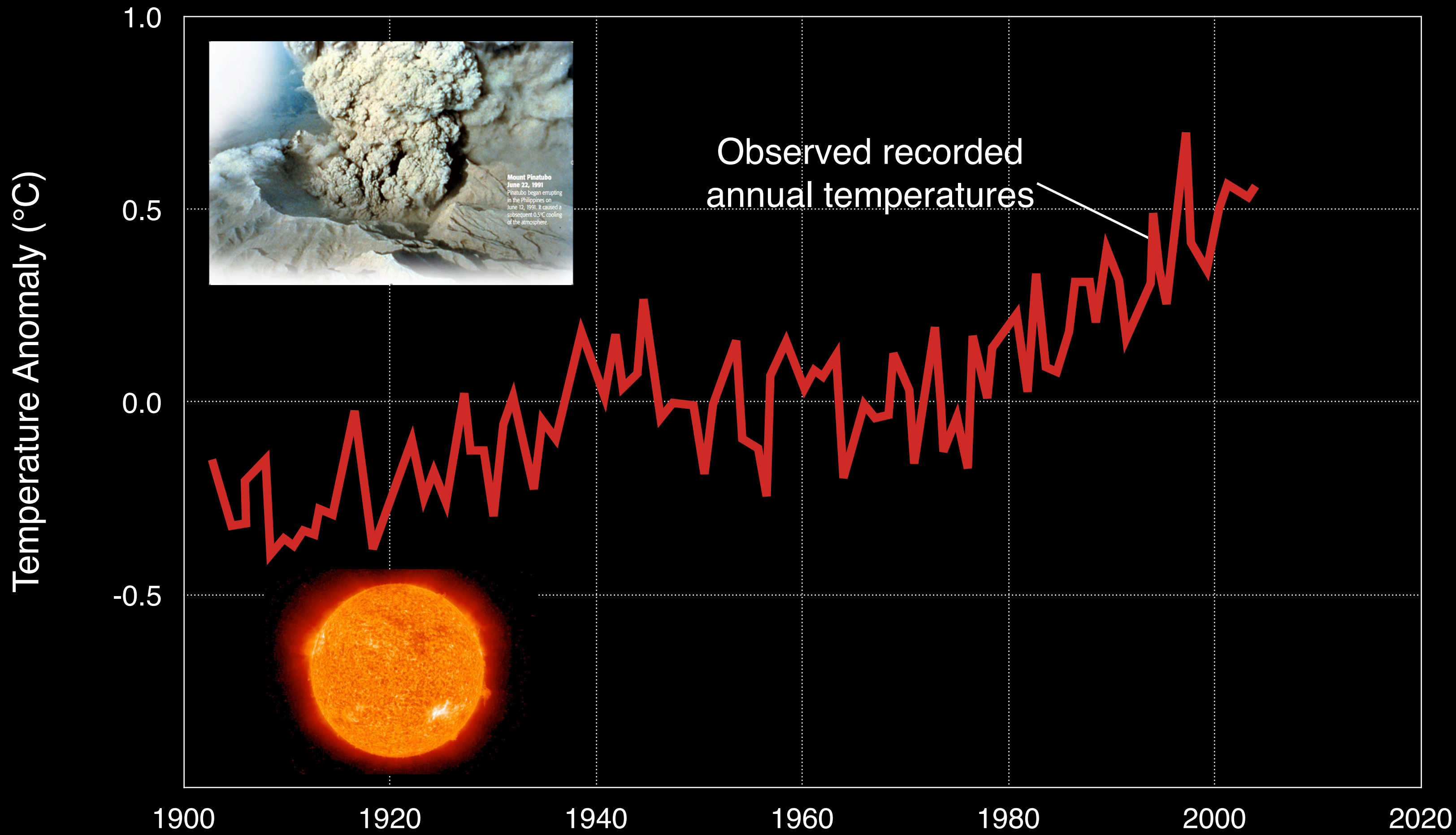
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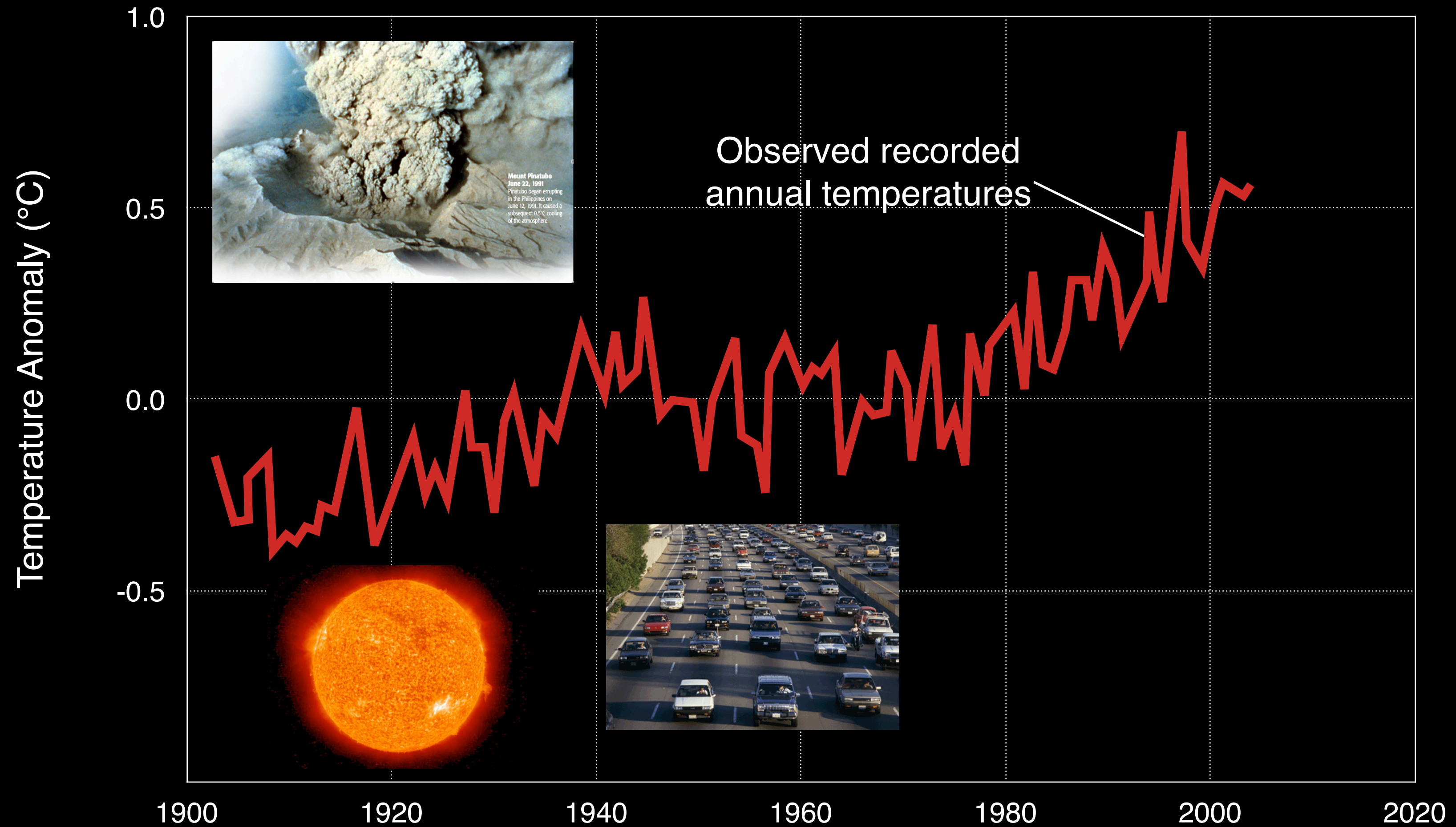
Observed/Predicted Climate Trends

With Natural and Human Factors



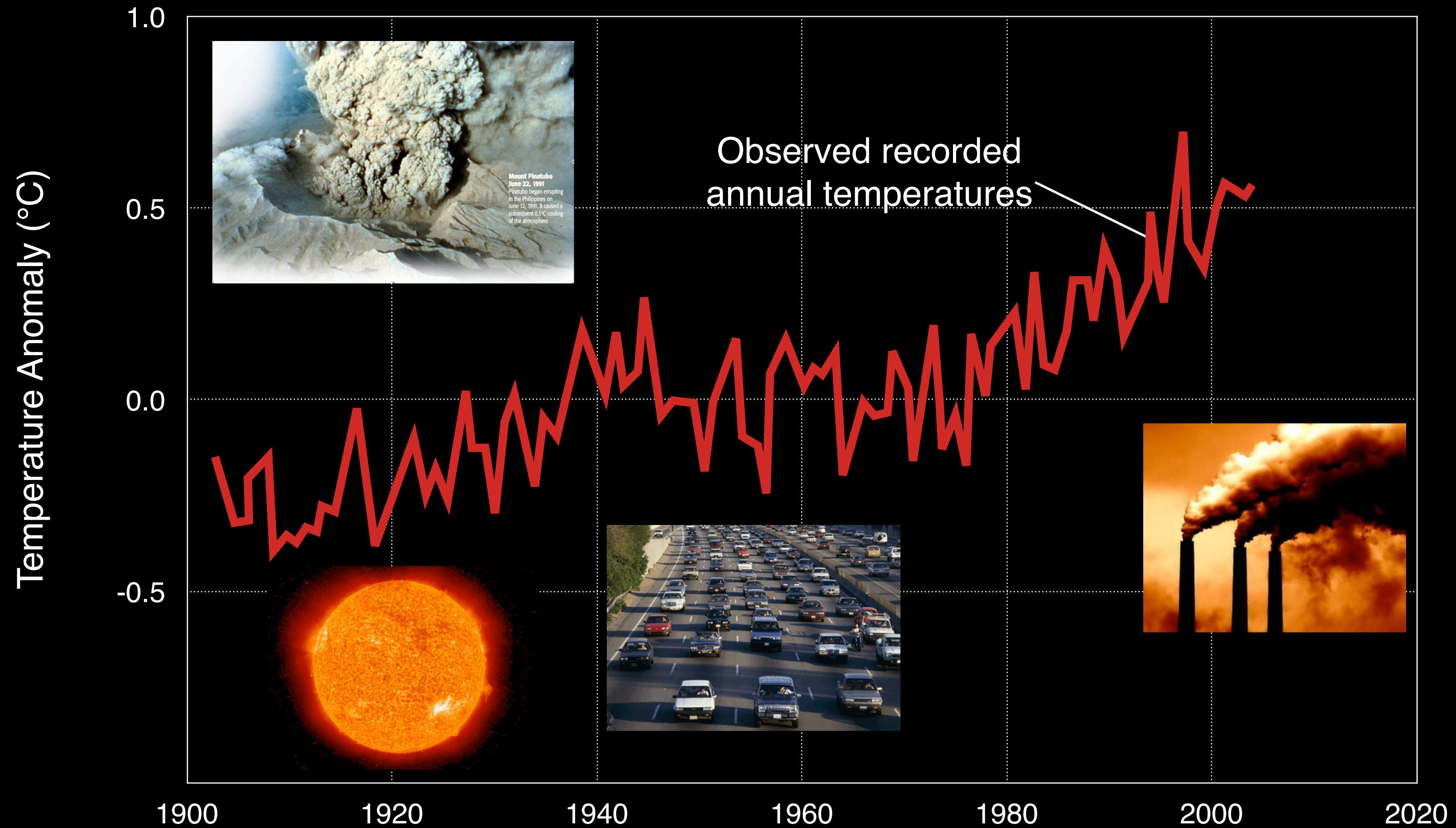
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With Natural and Human Factors



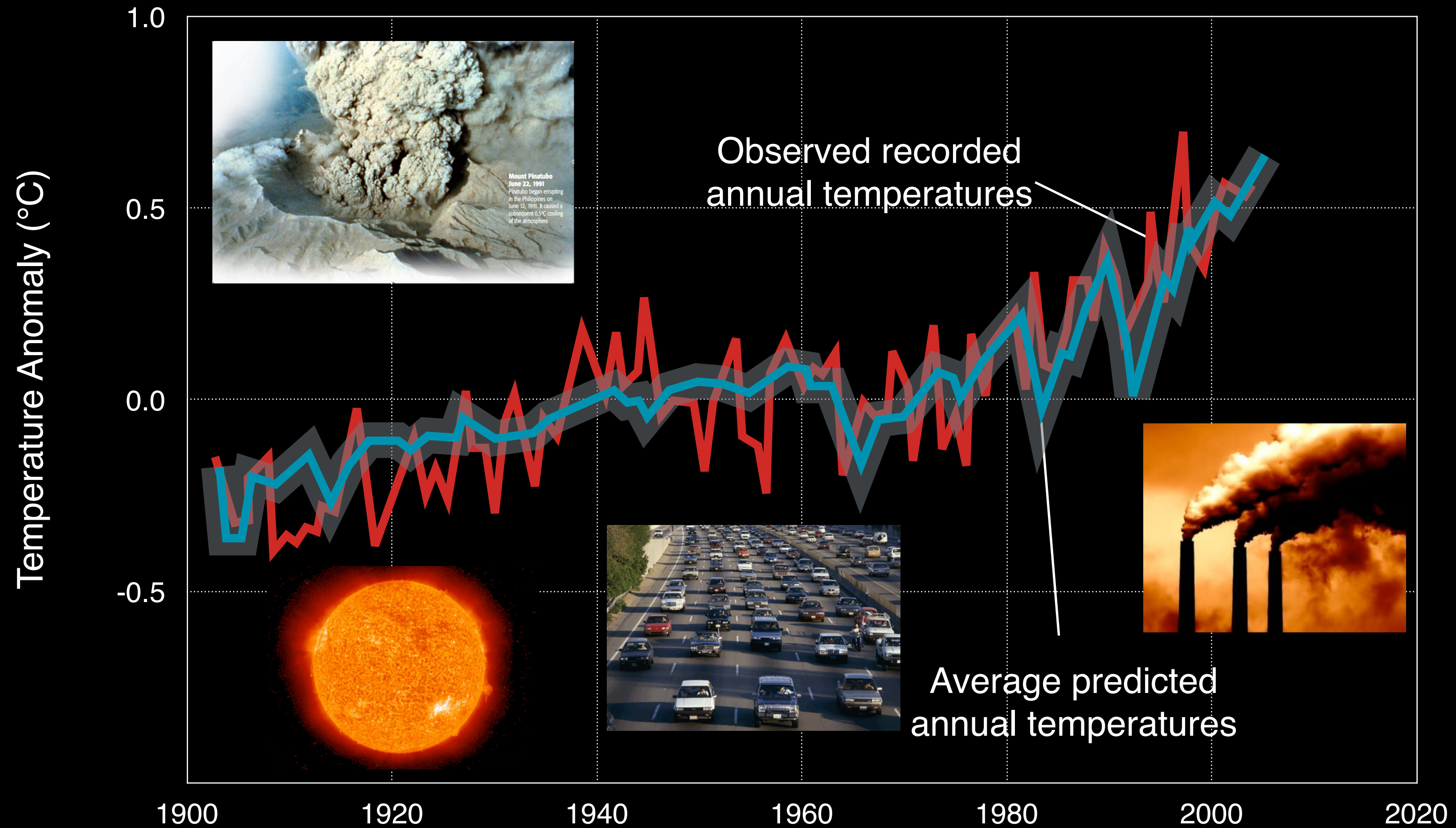
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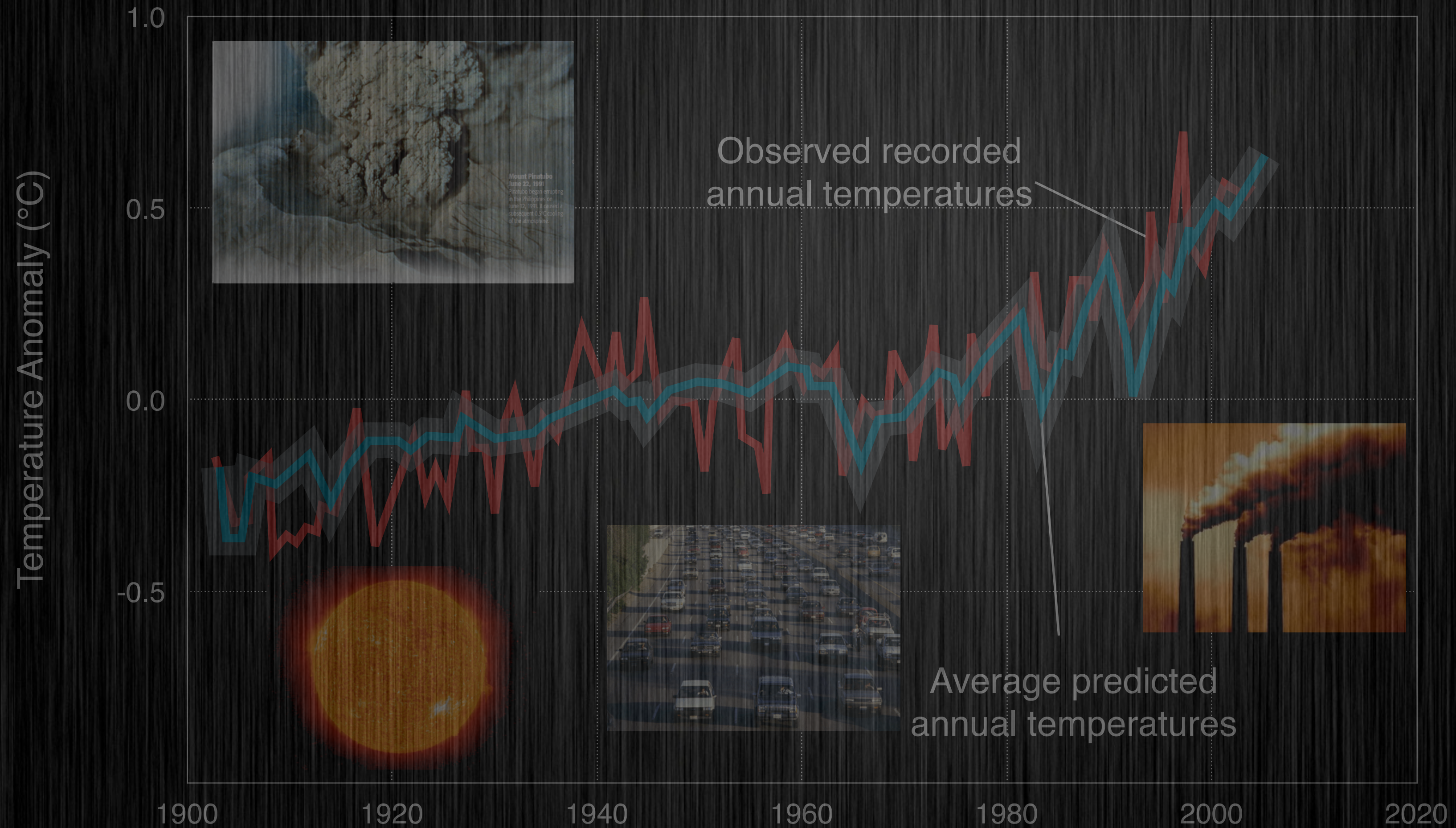
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With Natural and Human Factors



Observed/Predicted Climate Trends

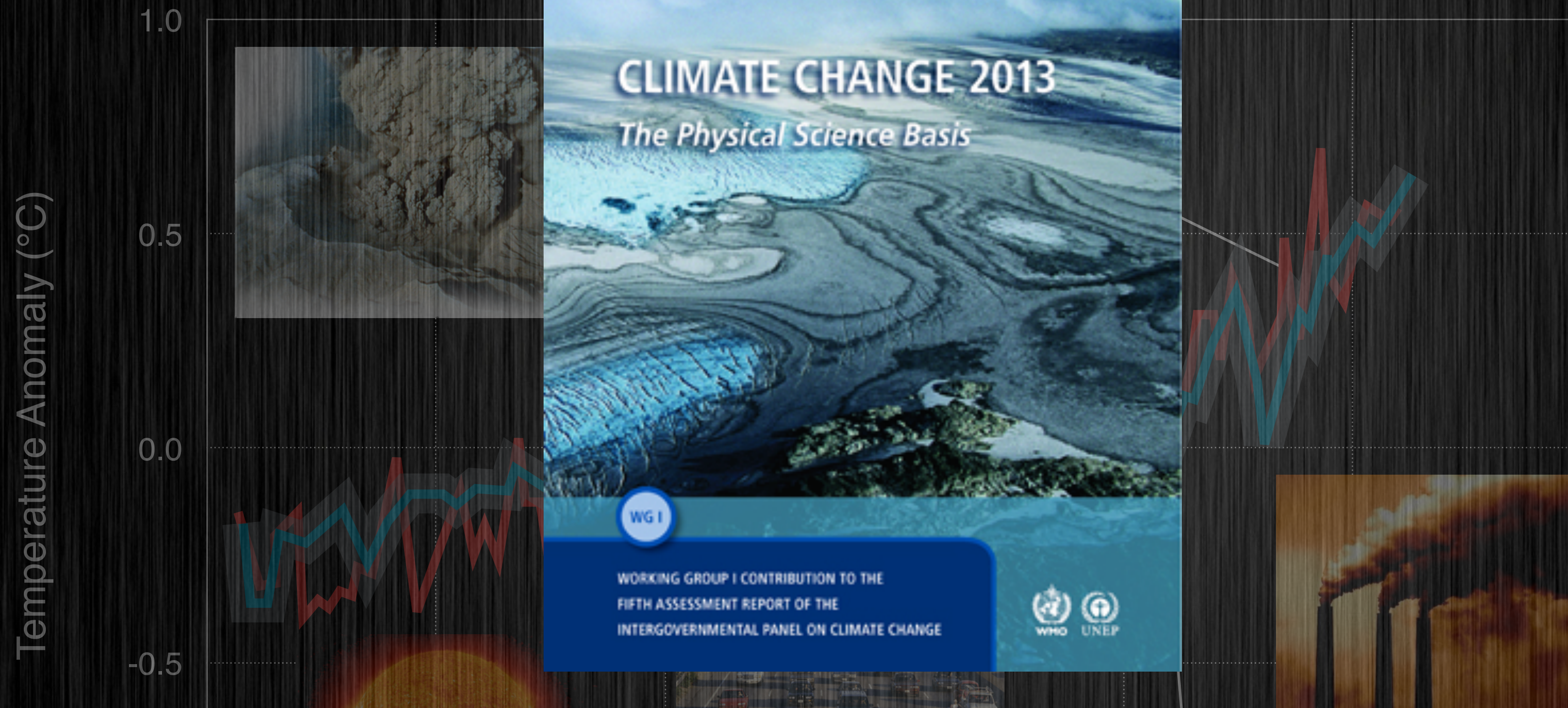
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Observed/Predicted Climate Trends

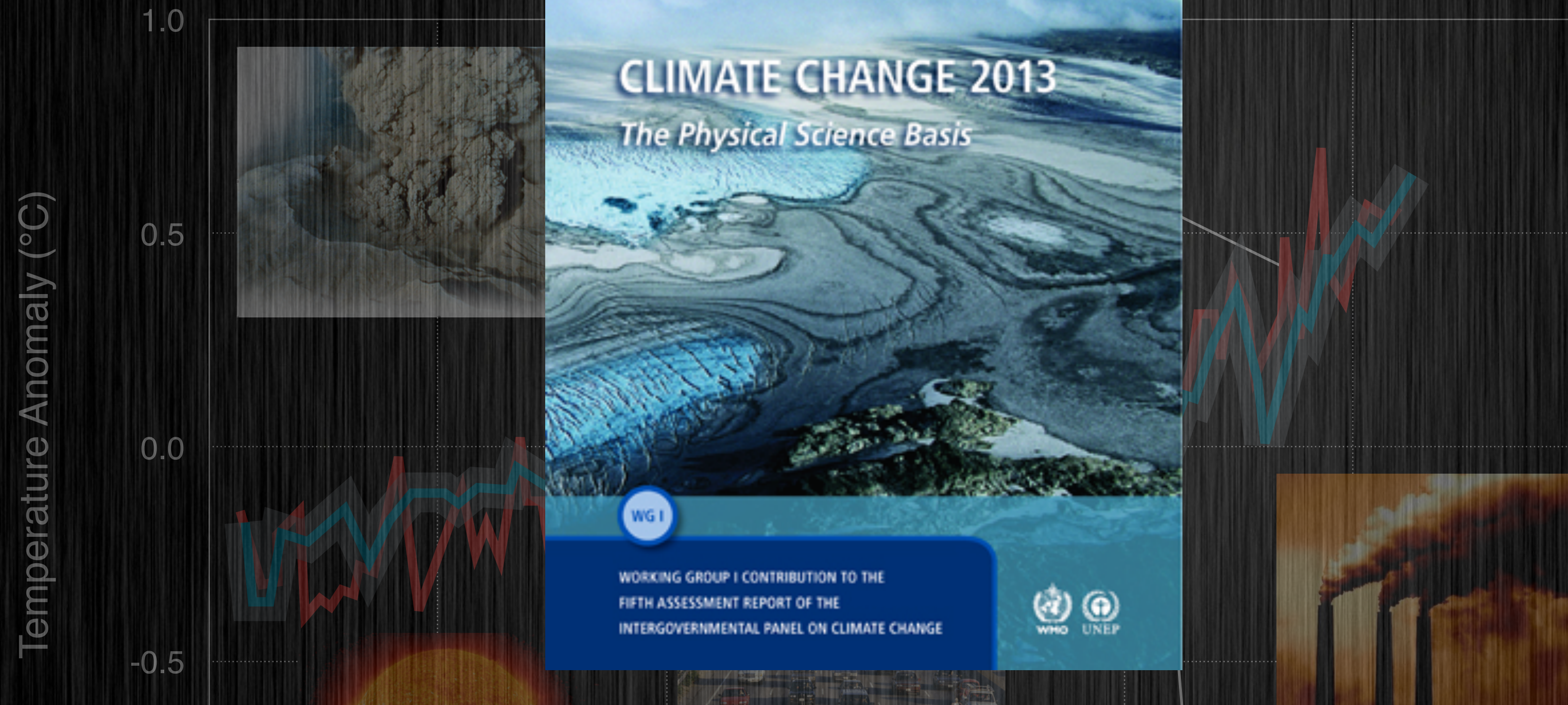


Observed/Projected Climate Trends



Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes (Figure SPM.6 and Table SPM.1). This evidence for human influence has grown since AR4. It is *extremely likely* that human influence has been the dominant cause of the observed warming since the mid-20th century. {10.3–10.6, 10.9}

Observed/Projected Climate Trends



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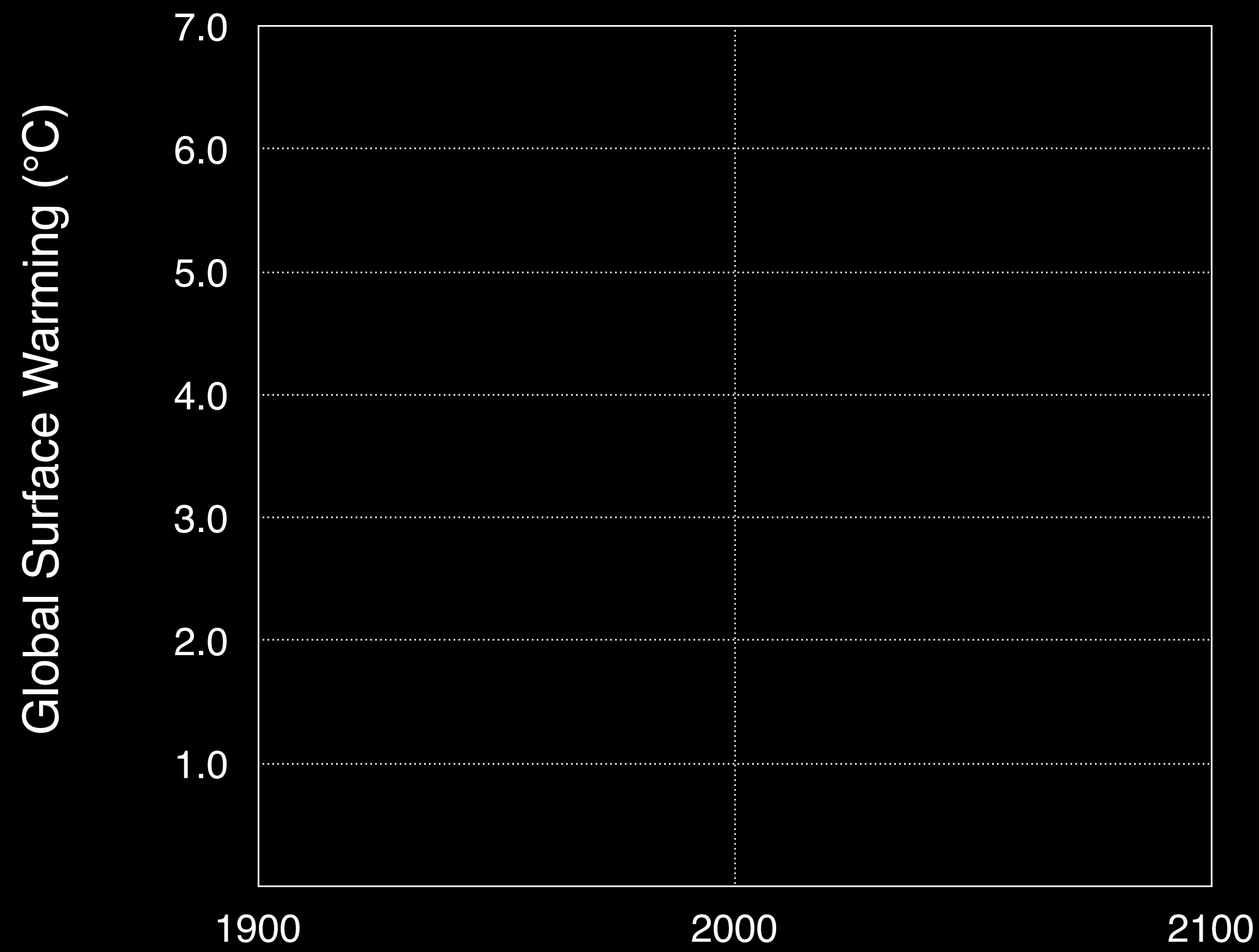
Projections of the Future



The pathways we choose.

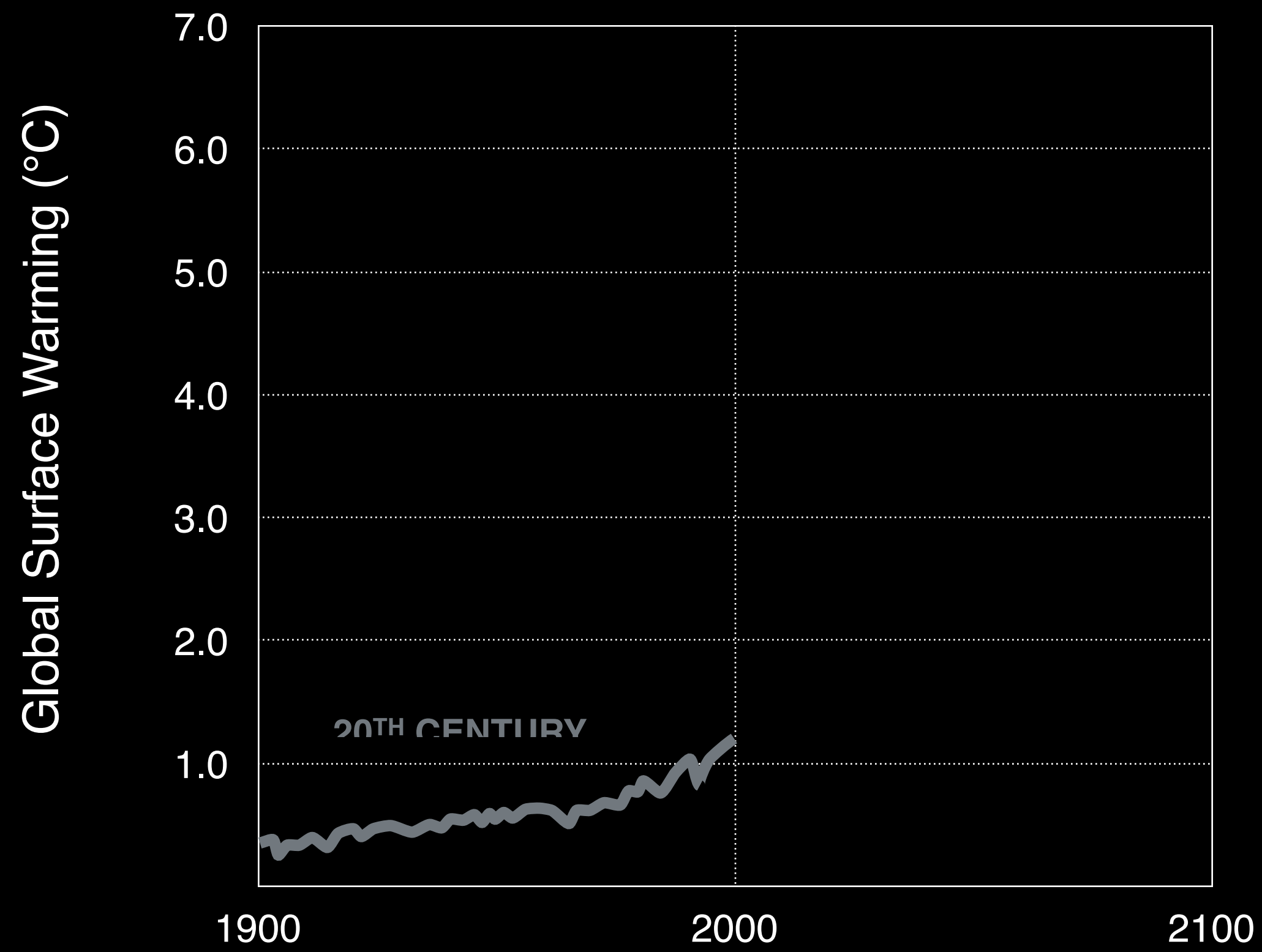
Projections of the Future

Predicted Surface Warming Under Varying Emissions Scenarios



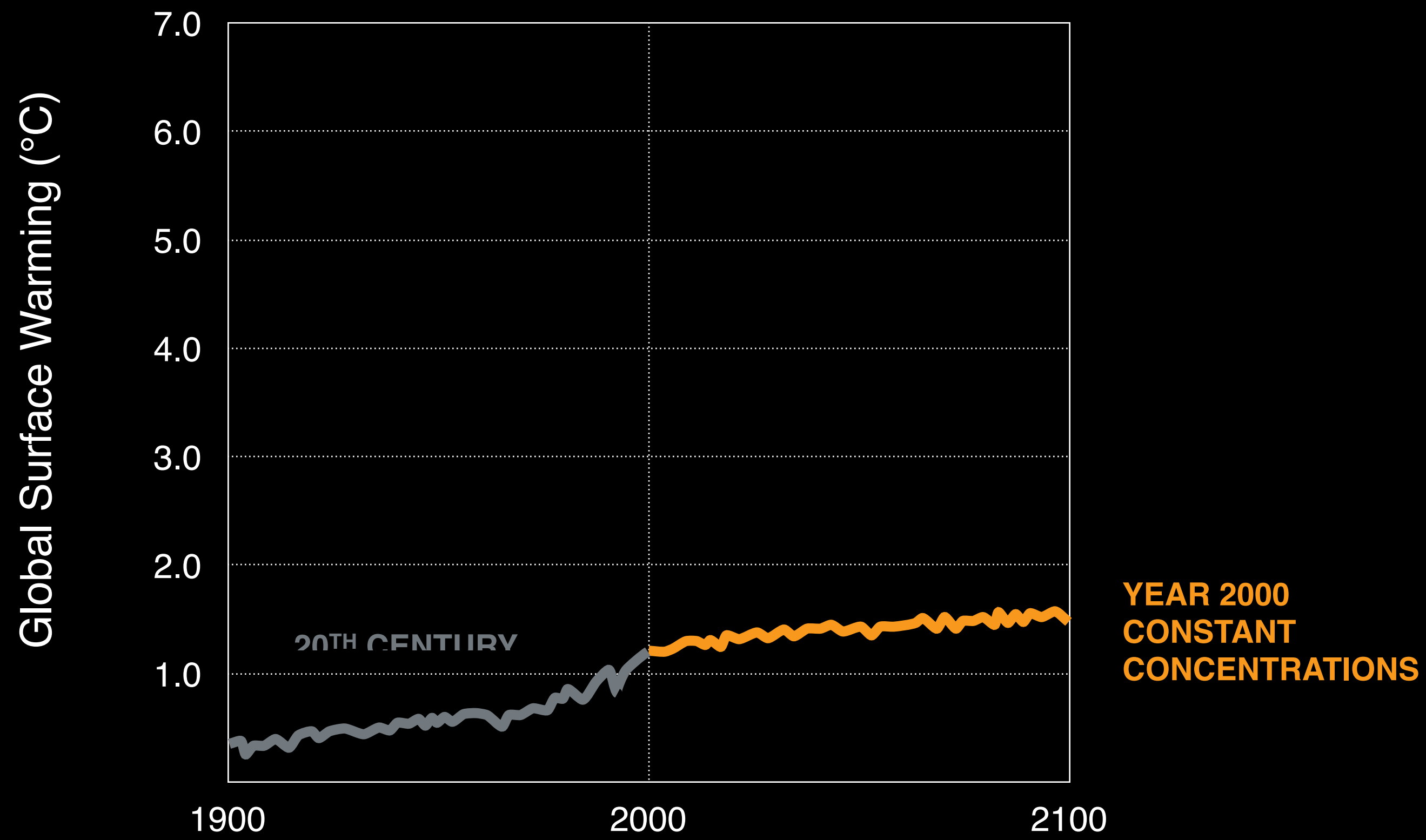
Projections of the Future

Predicted Surface Warming Under Varying Emissions Scenarios



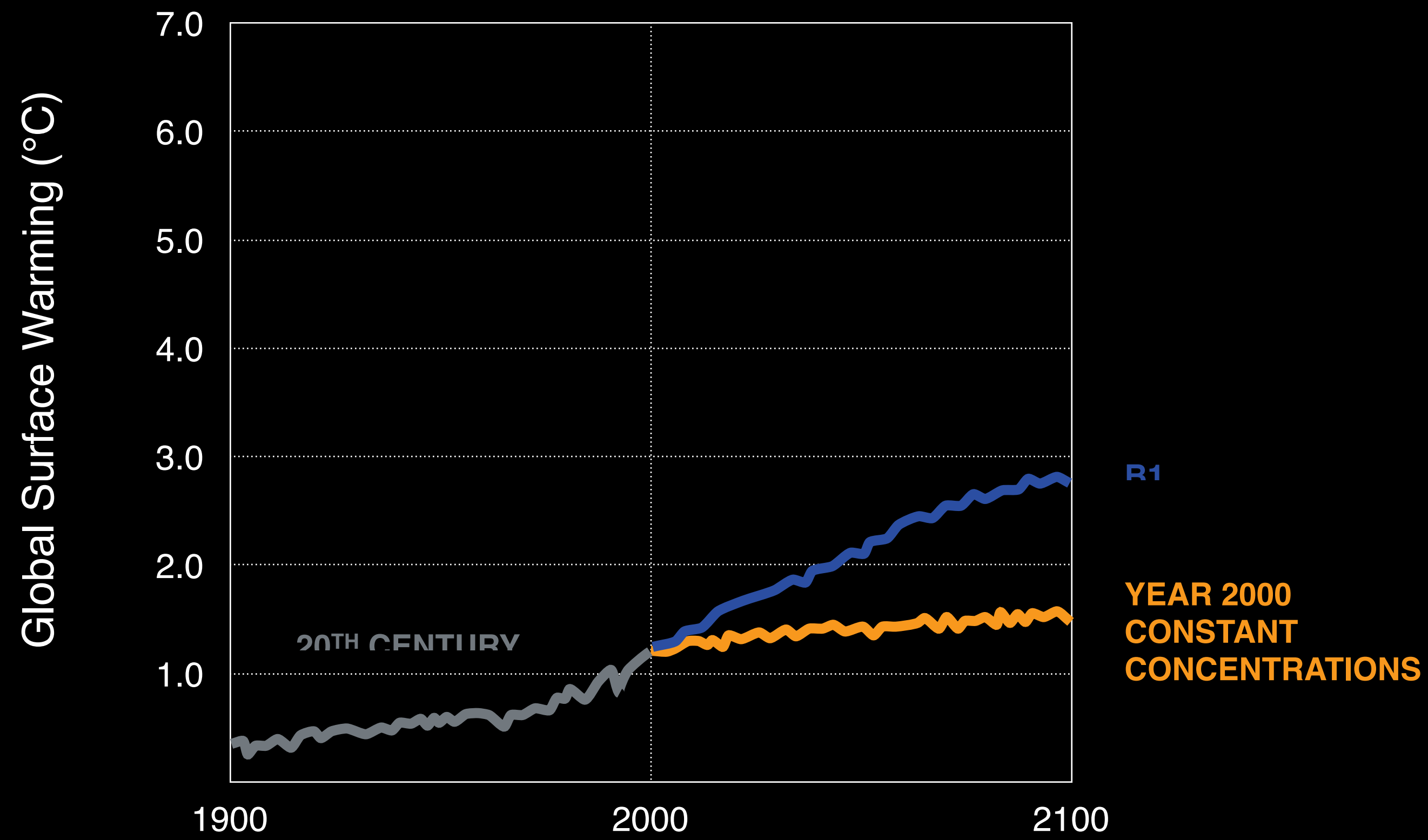
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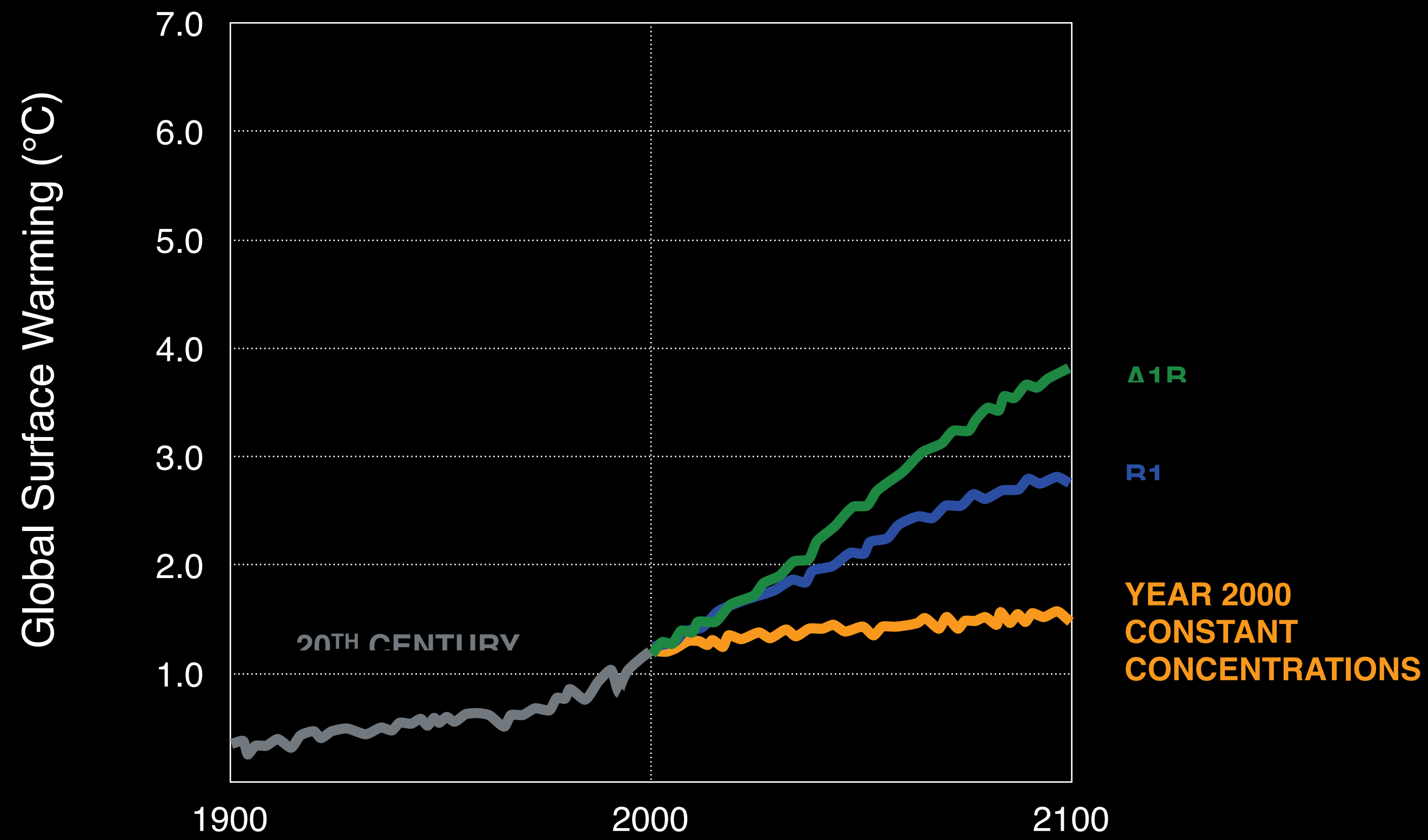
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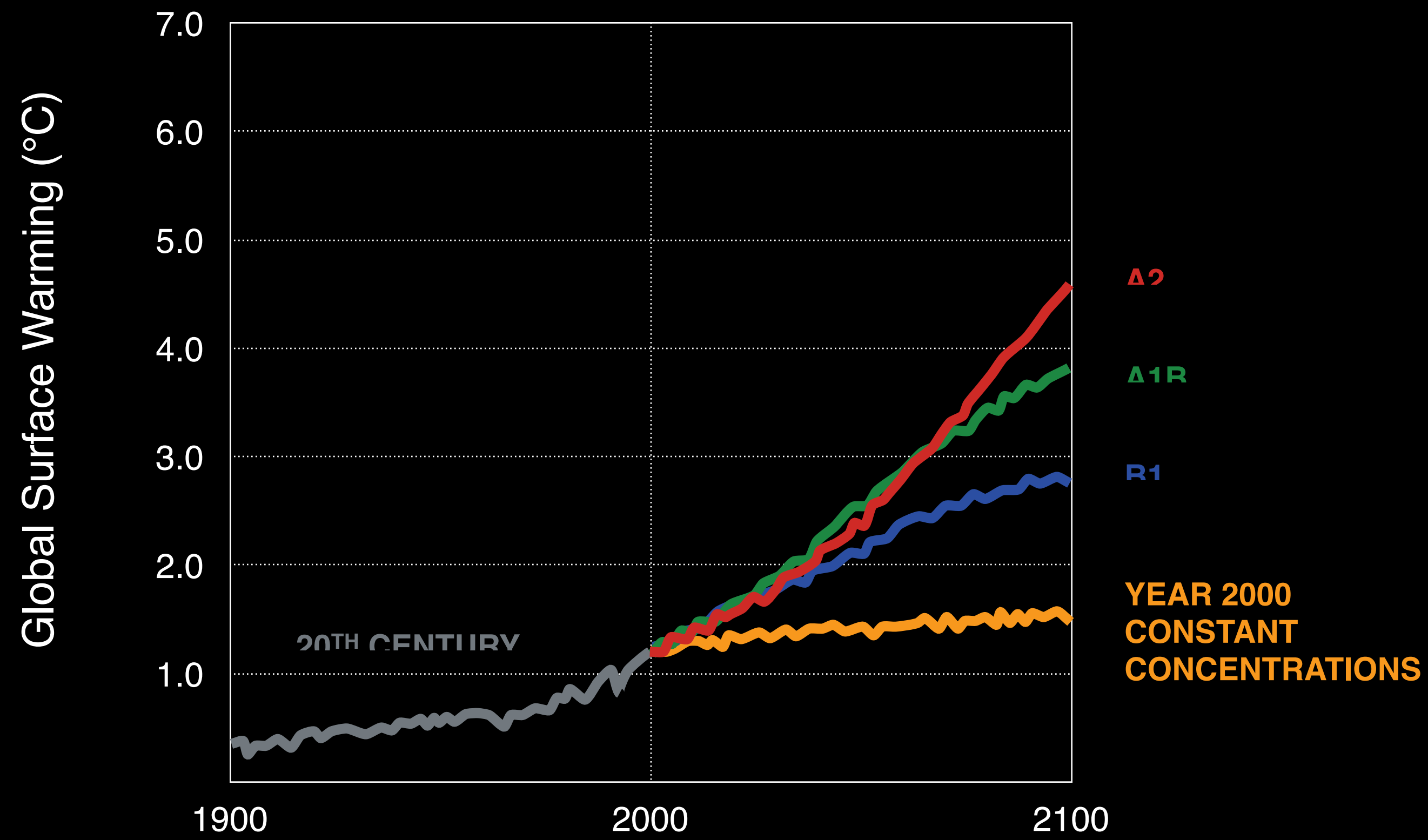
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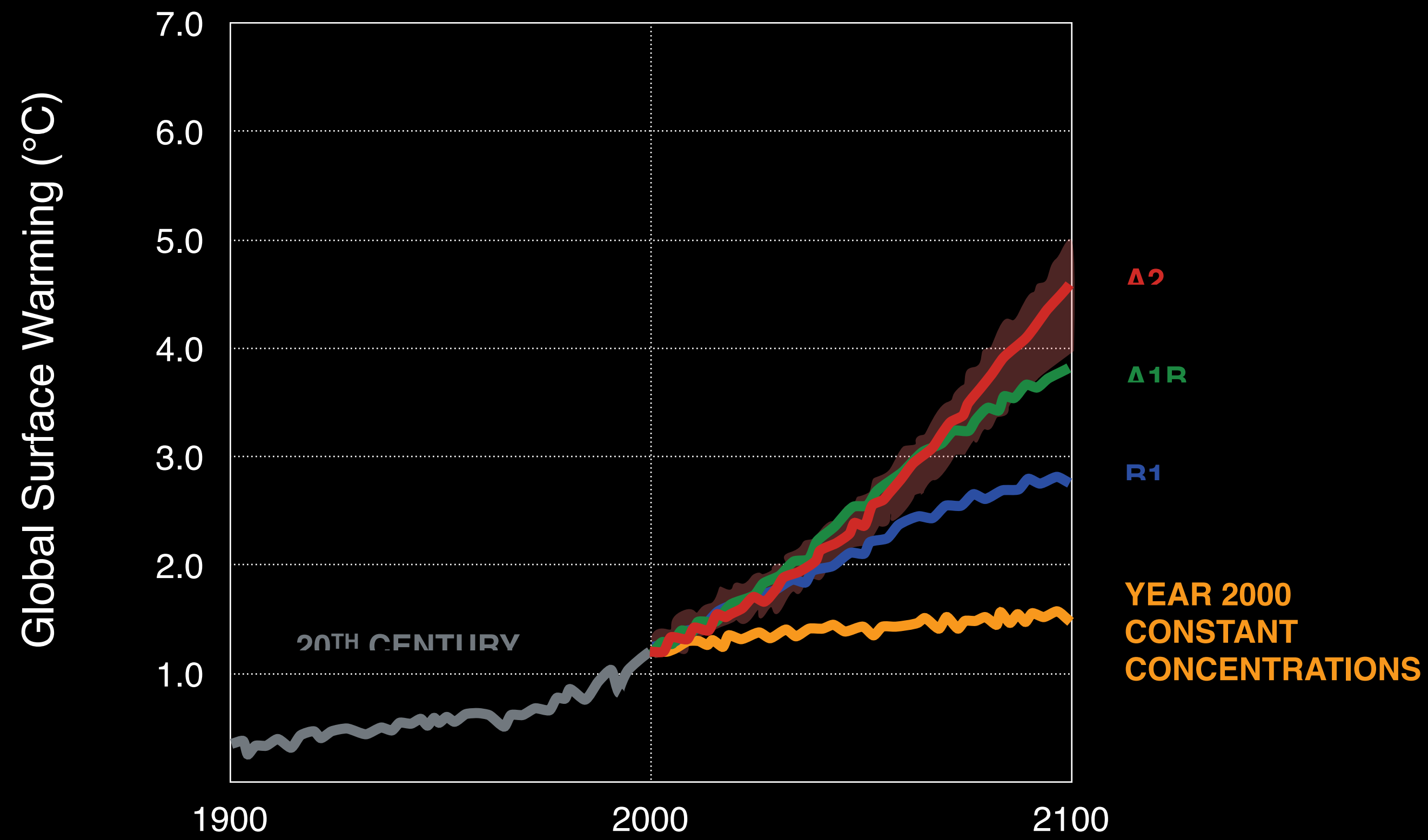
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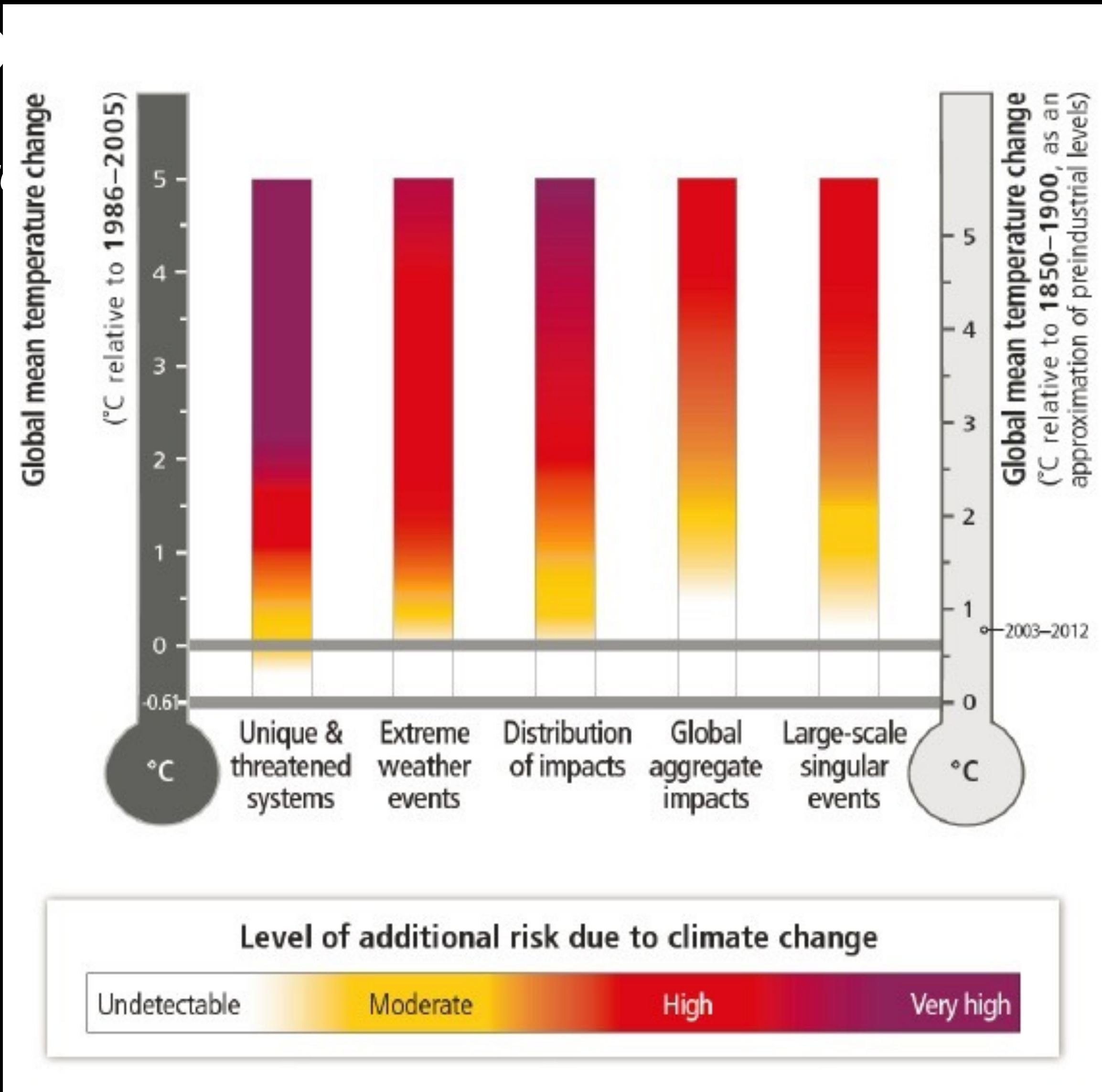


Projections of the Future

Predicted Surface Warming Under Varying Emissions Scenarios



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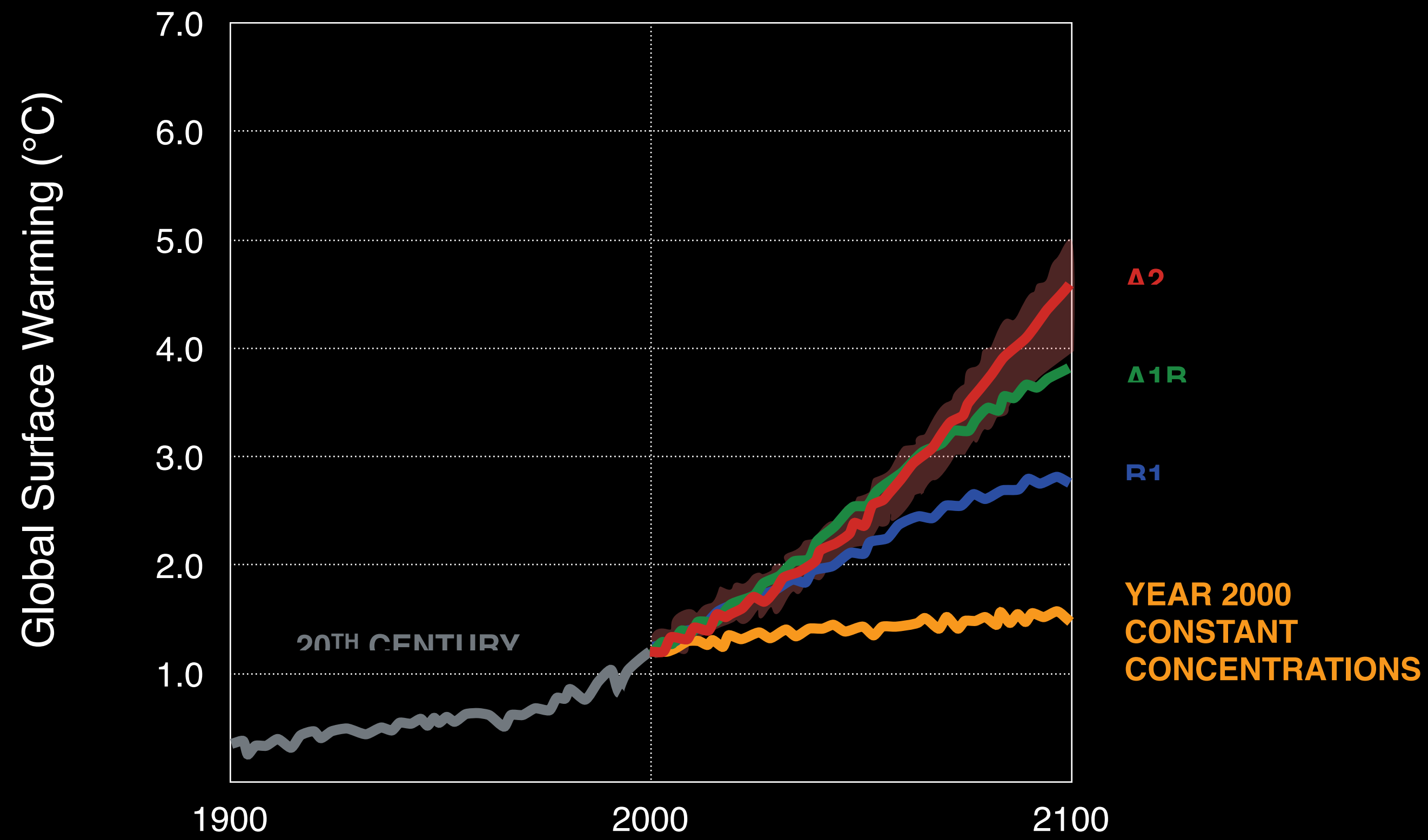


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Projections of the Future

Predicted Surface Warming Under Varying Emissions Scenarios



False Hope

The rate of global temperature rise may have hit a plateau, but a climate crisis still looms in the near future

By Michael E. Mann

"Temperatures have been flat for 15 years—nobody can properly explain it," the *Wall Street Journal* says. "Global warming 'pause' may last for 20 more years, and Arctic sea ice has already started to recover," the *Daily Mail* says. Such reassuring claims about climate abound in the popular media, but they are misleading at best. Global warming continues unabated, and it remains an urgent problem.

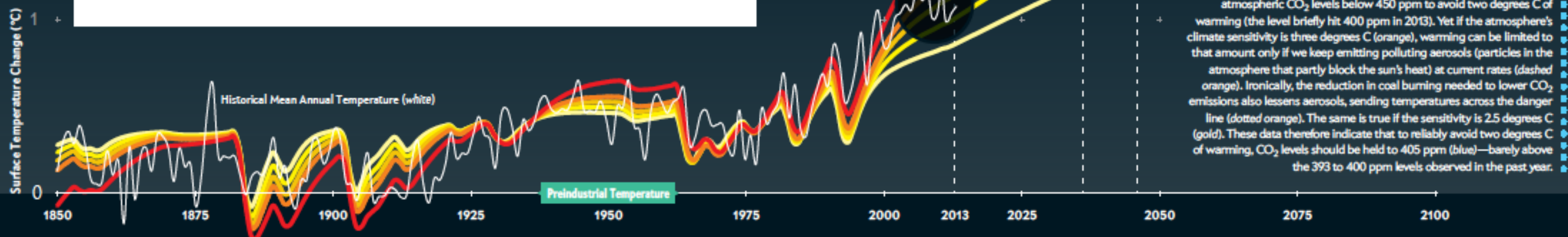
The misunderstanding stems from data showing that during the past decade there was a slowing in the rate at which the earth's average surface temperature had been increasing. The event is commonly referred to as "the pause," but that is a misnomer: temperatures still rose, just not as fast as during the prior decade. The important question is, What does the short-term slowdown portend for how the world may warm in the future?

The Intergovernmental Panel on Climate Change (IPCC) is charged with answering such questions. In response to the data, the IPCC in its September 2013 report lowered one aspect of its prediction for future warming. Its forecasts, released every five to seven years, drive climate policy worldwide, so even the small change raised debate over how fast the planet is warming and how much time we have to stop it. The IPCC has not yet weighed in on the impacts of the warming or how to mit-

igate it, which it will do in reports that were due this March and April. Yet I have done some calculations that I think can answer those questions now: If the world keeps burning fossil fuels at the current rate, it will cross a threshold into environmental ruin by 2036. The "faux pause" could buy the planet a few extra years beyond that date to reduce greenhouse gas emissions and avoid the crossover—but only a few.

A SENSITIVE DEBATE

THE DRAMATIC NATURE of global warming captured world attention in 2001, when the IPCC published a graph that my co-authors and I devised, which became known as the "hockey stick." The shaft of the stick, horizontal and sloping gently downward from left to right, indicated only modest changes in Northern Hemisphere temperature for almost 1,000 years—as far back as our data went.



Danger Zone in 22 Years

If the Northern Hemisphere's surface temperatures rise more than two degrees Celsius above preindustrial levels (baseline), human civilization will suffer dangerous harm, scientists say. When will that occur if the world keeps burning fossil fuels at current rates? The answer comes from entering estimates for equilibrium climate sensitivity (ECS)—how sensitive the atmosphere is to the heating effect of greenhouse gases (five solid curves)—into a so-called energy balance model of climate. The estimate that best agrees with recorded data reflecting the sensitivity of the earth's climate (white) indicates that the world will cross the two degrees C threshold in 2036, only 22 years from now (orange). If the reported recent slowdown in the rate of temperature rise, sometimes inappropriately called "the pause," proves to be part of a more persistent pattern, then a different estimate (gold) best fits the past 15 years or so, and it gives the world until 2046 to cross the danger line.

Equilibrium Climate Sensitivity 4.5

Equilibrium Climate Sensitivity 3.0

Equilibrium Climate Sensitivity 2.5

Equilibrium Climate Sensitivity 2.0

Equilibrium Climate Sensitivity 1.5

--- Current level of aerosols persists

..... Level of aerosols drops

CO₂ level of 450 ppm (ECS 3.0)

CO₂ level held at 405 ppm

CO₂ level of 450 ppm (ECS 2.5)

Where to Hold the Line

Scientists and policy makers commonly say that the world has to keep atmospheric CO₂ levels below 450 ppm to avoid two degrees C of warming (the level briefly hit 400 ppm in 2013). Yet if the atmosphere's climate sensitivity is three degrees C (orange), warming can be limited to that amount only if we keep emitting polluting aerosols (particles in the atmosphere that partly block the sun's heat) at current rates (dashed orange). Ironically, the reduction in coal burning needed to lower CO₂ emissions also lessens aerosols, sending temperatures across the danger line (dotted orange). The same is true if the sensitivity is 2.5 degrees C (gold). These data therefore indicate that to reliably avoid two degrees C of warming, CO₂ levels should be held to 405 ppm (blue)—barely above the 393 to 400 ppm levels observed in the past year.

















Moose Die-Off Alarms Scientists



What exactly has changed remains a mystery. Several factors are clearly at work. But a common thread in most hypotheses is climate change.

Winters have grown substantially shorter across much of the moose's range. In New Hampshire, a longer fall with less snow has greatly increased the number of [winter ticks](#), a devastating parasite. "You can get 100,000 ticks on a moose," said Kristine Rines, a biologist with the state's [Fish and Game Department](#).

Brian Peterson/Minneapolis Star Tribune

Mark Keech, right, a research biologist, and Tiffany Wolf, a veterinarian, fitted a moose with a radio collar and took samples as part of a Minnesota study of why the animals die.

By JIM ROBBINS

Published: October 14, 2013

CHOTEAU, Mont. — Across North America — in places as far-flung as Montana and British Columbia, New Hampshire and Minnesota — moose populations are in steep decline. And no one is sure why.

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9 February 2014 Last updated at 08:16 ET



Met Office: Evidence 'suggests climate change link to storms'



Climate change is likely to be a factor in the extreme weather that has hit much of the UK in recent months, the Met Office's chief scientist has said.

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2012 Great Britain and Ireland floods

From Wikipedia, the free encyclopedia

The **2012 Great Britain and Ireland floods** are a series of weather events that affected parts of Great Britain and Ireland periodically during the course of 2012 and on through the winter into 2013. The beginning of 2012 saw much of the United Kingdom experiencing droughts and a **heat wave in March**. A series of low pressure systems steered by the **jet stream** brought the wettest April in 100 years, and flooding across Britain and Ireland. Continuing through May and leading to the wettest beginning to June in 150 years, with flooding and extreme events occurring periodically throughout Britain and parts of **Atlantic Europe**.

On 27 and 28 June and again on 7 July heavy rain events occurred from powerful thunderstorms that gathered strength as they travelled across mainland Britain. Severe weather warnings and a number of flood alerts were issued by the UK's **Environment Agency**, and many areas were hit by **flash floods** that overwhelmed properties and caused power cuts. A motorist was killed after his vehicle was caught by floodwater and landslides halted rail services between England and Scotland. The thunderstorms were the product of two fronts that collided over the British Isles – warm air travelling from **the Azores** and cold water-laden air from the west. The second batch of flooding struck the South-West of England during the afternoon of 7 July, forcing the Met Office to issue its highest alert, Red (Take Action), due to the significant amounts of rainfall caused by a system travelling from Southern Europe, along with the warm, humid air the United Kingdom had seen in the run-up to the floods, which, like the June floods, caused thunderstorms.

During the Autumn the most intense September low since 1981 brought widespread flooding and wind damage to the UK.^[1] Widespread flooding occurred again in November, December and January 2013, as more heavy rains overwhelmed the saturated ground.

2012 Flooding



The road to **Hanley Castle**, Worcestershire is under water and still rising, November 2012.

Duration	April 2012 – Early 2013
Fatalities	at least 9
Damages	£1 billion (November estimate) €1.2 billion
Areas affected	United Kingdom and Ireland



Flooding on the road to **Nether Heyford** from **Upper Heyford** Northamptonshire in April.



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California's Drought Worst in 1,200 Years, Researchers Say

EXTREME WEATHER
A TOWN WITHOUT WATER
 CALIFORNIA RESIDENTS COPE AMIDST RECORD DROUGHT TODAY

In California drought, a town living without water

f t e </> TODAY



U.S. Drought Monitor West

December 2, 2014
 (Released Thursday, Dec. 4, 2014)
 Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	34.32	65.68	55.16	34.01	18.98	8.45
Last Week 11/25/2014	34.72	65.28	54.99	33.88	18.75	8.45
3 Months Ago 9/2/2014	28.38	71.62	57.74	40.04	20.16	8.90
Start of Calendar Year 12/1/2013	22.20	77.80	51.44	31.11	7.75	0.63
Start of Water Year 9/30/2014	31.48	68.52	55.57	35.65	19.95	8.90
One Year Ago 12/2/2013	26.84	73.16	49.99	30.86	7.56	0.63

Intensity:
 D0 Abnormally Dry D3 Extreme Drought
 D1 Moderate Drought D4 Exceptional Drought
 D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
 Anthony Artusa
 NOAA/NWS/NCEP/CPC

USDA National Drought Mitigation Center

<http://droughtmonitor.unl.edu/>



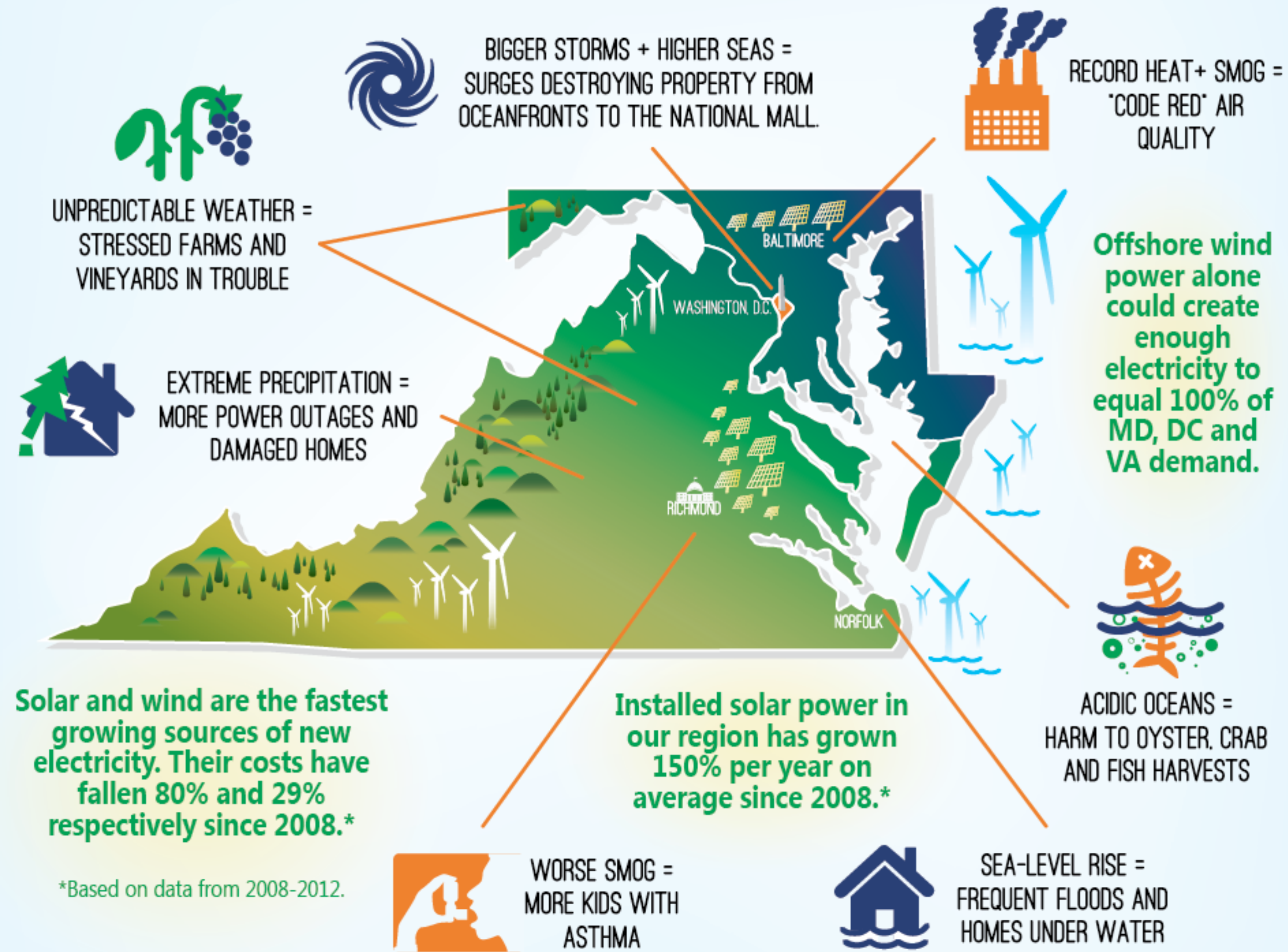
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CLIMATE CHANGE IS HERE. BUT SO ARE THE SOLUTIONS.



WHY NO ACTION?



FRANK LUNTZ MEMO, 2002



FRANK LUNTZ MEMO, 2002



WINNING THE GLOBAL WARMING DEBATE – AN OVERVIEW

Please keep in mind the following communication recommendations as you address global warming in general, particularly as Democrats and opinion leaders attack President Bush over Kyoto.

1. ***The scientific debate remains open.*** Voters believe that there is *no consensus* about global warming within the scientific community. Should the public come to believe that the scientific issues are settled, their views about global warming will change accordingly. Therefore, *you need to continue to make the lack of scientific certainty a primary issue in the debate*, and defer to scientists and other experts in the field.
2. ***Americans want a free and open discussion.*** Even though Democrats savaged President Bush for formally withdrawing from the Kyoto accord, the truth is that none of them would have actually voted to ratify the treaty, and they were all glad to see it die. Emphasize the importance of *“acting only with all the facts in hand”* and *“making the right decision, not the quick decision.”*
3. ***Technology and innovation are the key in arguments on both sides.*** Global warming alarmists use American superiority in technology and innovation quite effectively in responding to accusations that international agreements such as the Kyoto accord could cost the United States billions. Rather than condemning corporate America the way most environmentalists have done in the past, they attack their us for lacking faith in our collective ability to meet any economic challenges presented by environmental changes we make. This should be our argument. *We need to emphasize how voluntary innovation and experimentation are preferable to bureaucratic or international intervention and regulation.*
4. ***The “international fairness” issue is the emotional home run.*** Given the chance, Americans will demand that all nations be part of any international global warming treaty. Nations such as China, Mexico and India would have to sign such an agreement for the majority of Americans to support it.
5. ***The economic argument should be secondary.*** Many of you will want to focus on the higher prices and lost jobs that would result from complying with Kyoto, but you can do better. Yes, when put in specific terms (food and fuel prices, for example) on an individual-by-individual basis, this argument does resonate. Yes, the fact that Kyoto would hurt the economic well being of seniors and the poor is of particular concern. However, the economic argument is less effective than each of the arguments listed above.

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How a Handful of Scientists

Obscured the Truth on

Issues from Tobacco

Smoke to Global

Warming

Merchants of DOUBT

Naomi Oreskes
& Erik M. Conway

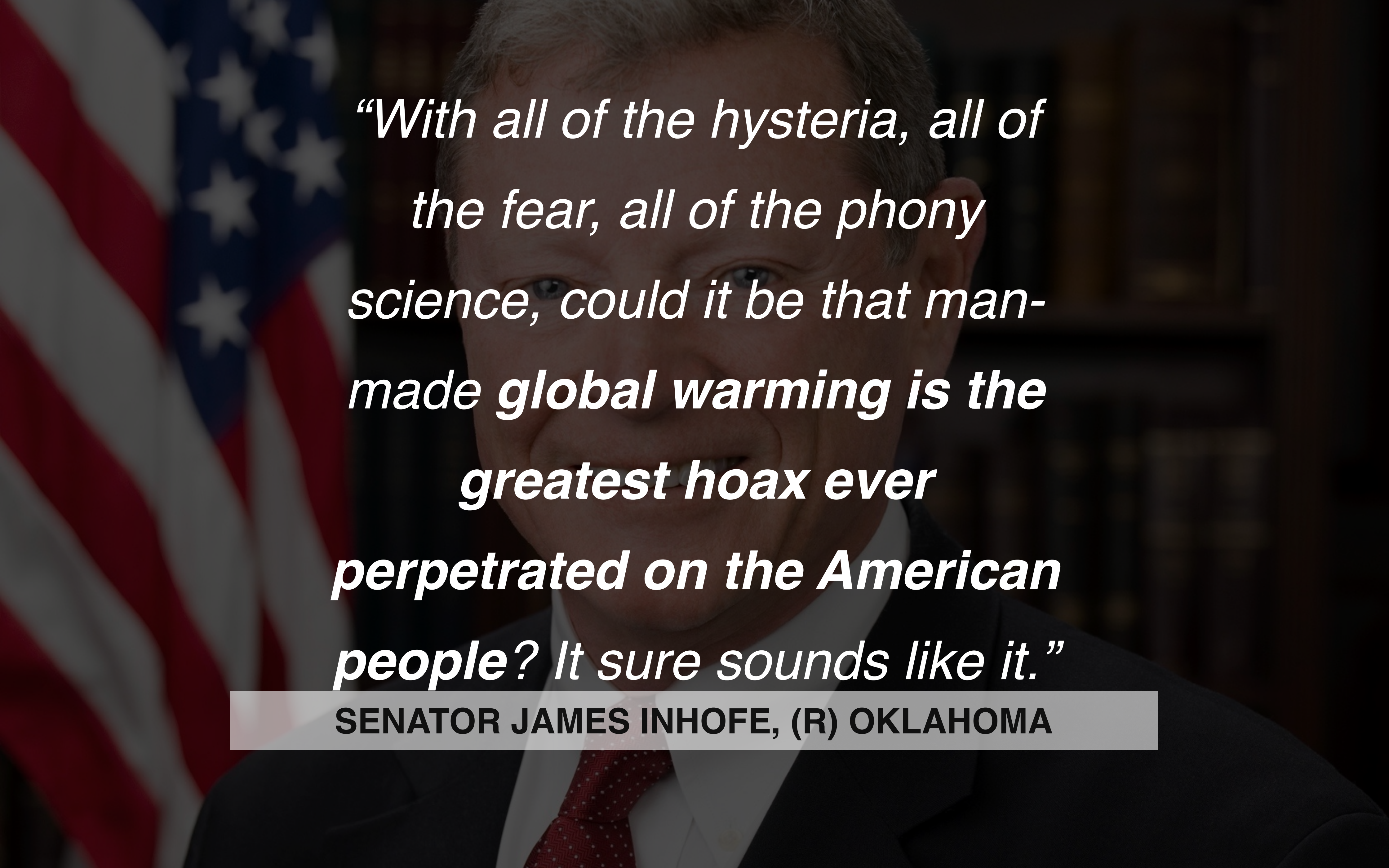
ERIK M. CONWAY



SENATOR JAMES INHOFE, (R) OKLAHOMA



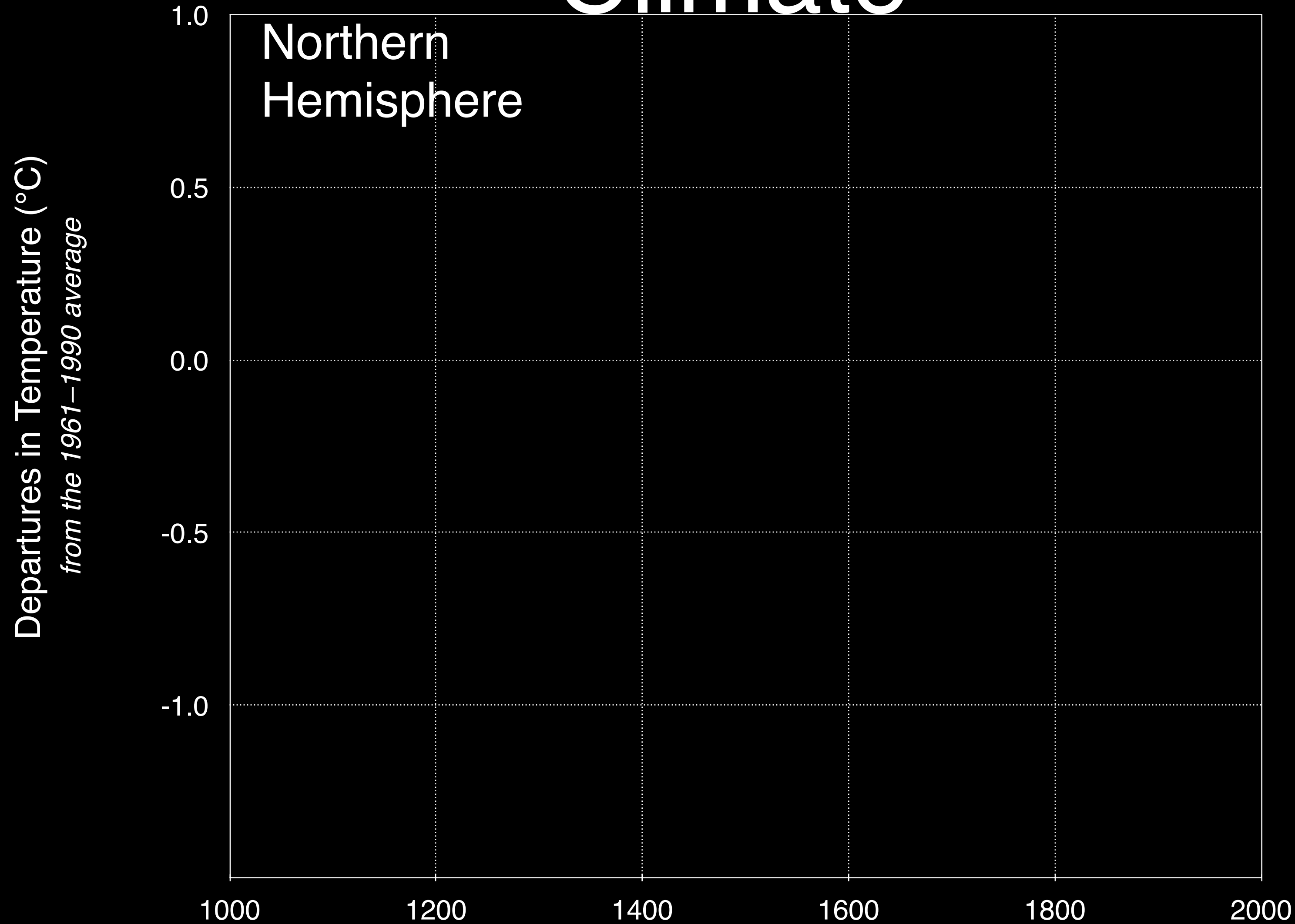
SENATOR JAMES INHOFE, (R) OKLAHOMA

A portrait of Senator James Inhofe, a man with short grey hair, wearing a dark suit, white shirt, and a red tie with small white dots. He is looking slightly to the right of the camera with a neutral expression. The background is dark and out of focus, with an American flag visible on the left side. The text is overlaid on the image in a white, bold, italicized font.

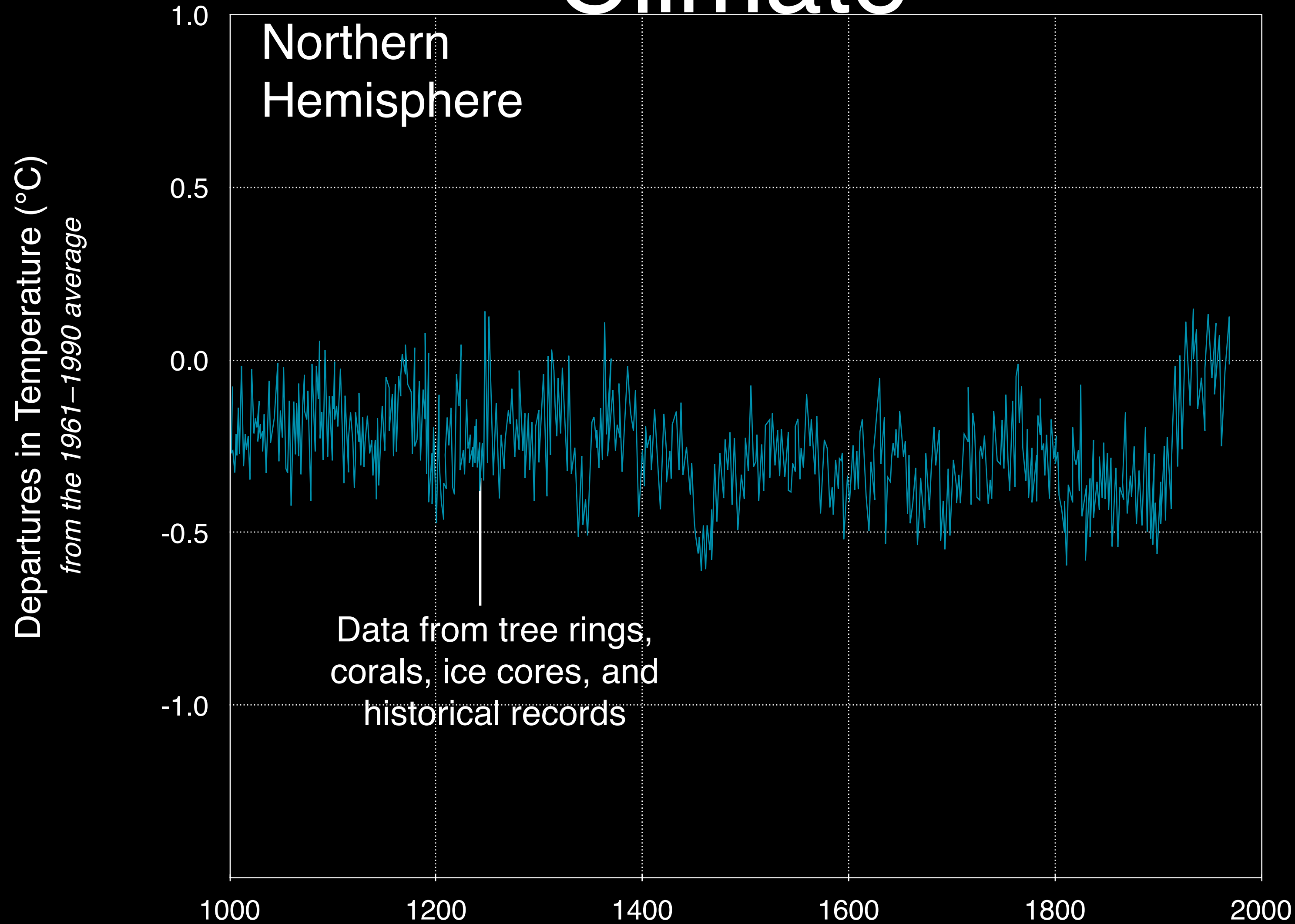
“With all of the hysteria, all of the fear, all of the phony science, could it be that man-made global warming is the greatest hoax ever perpetrated on the American people? It sure sounds like it.”

SENATOR JAMES INHOFE, (R) OKLAHOMA

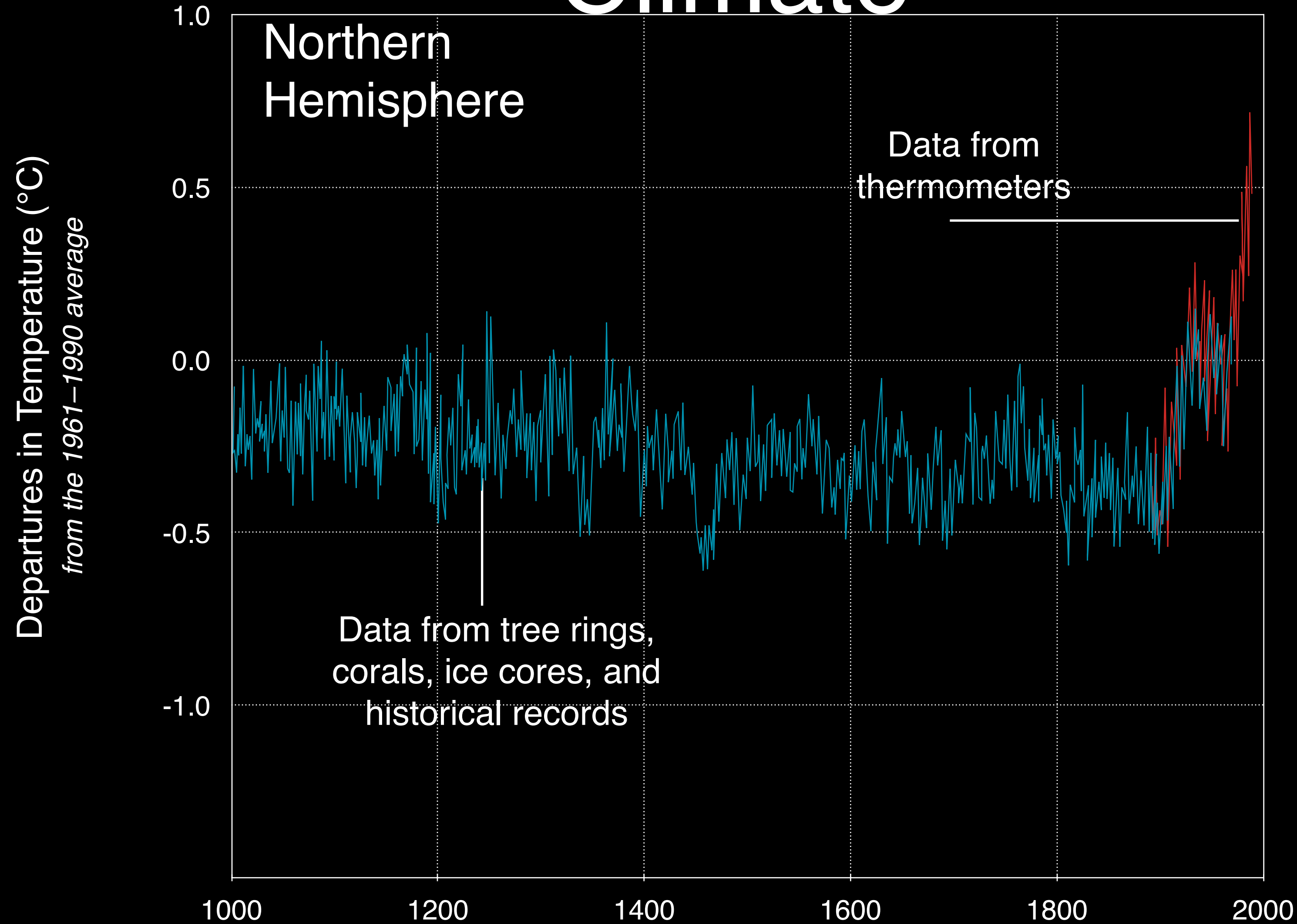
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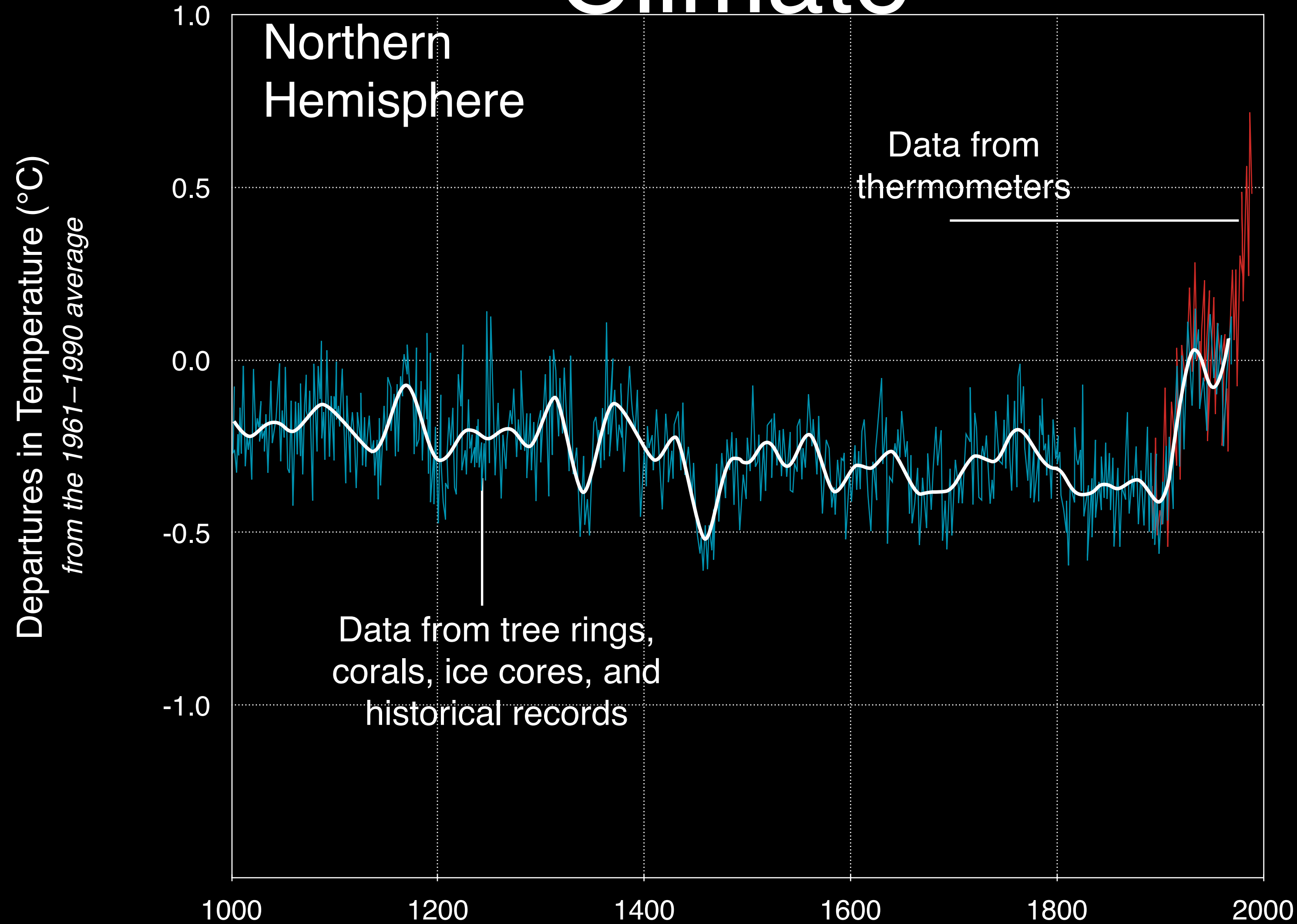
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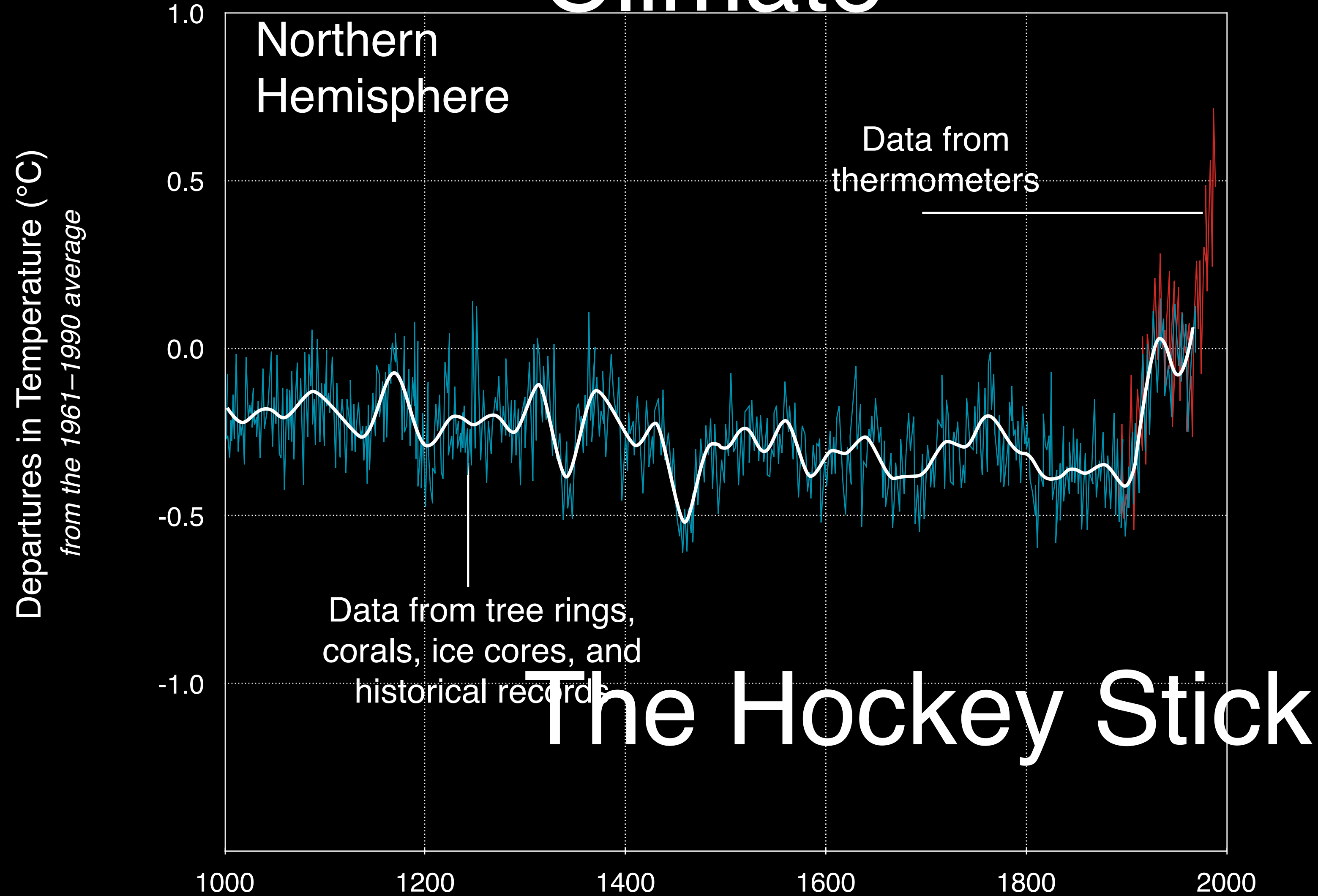
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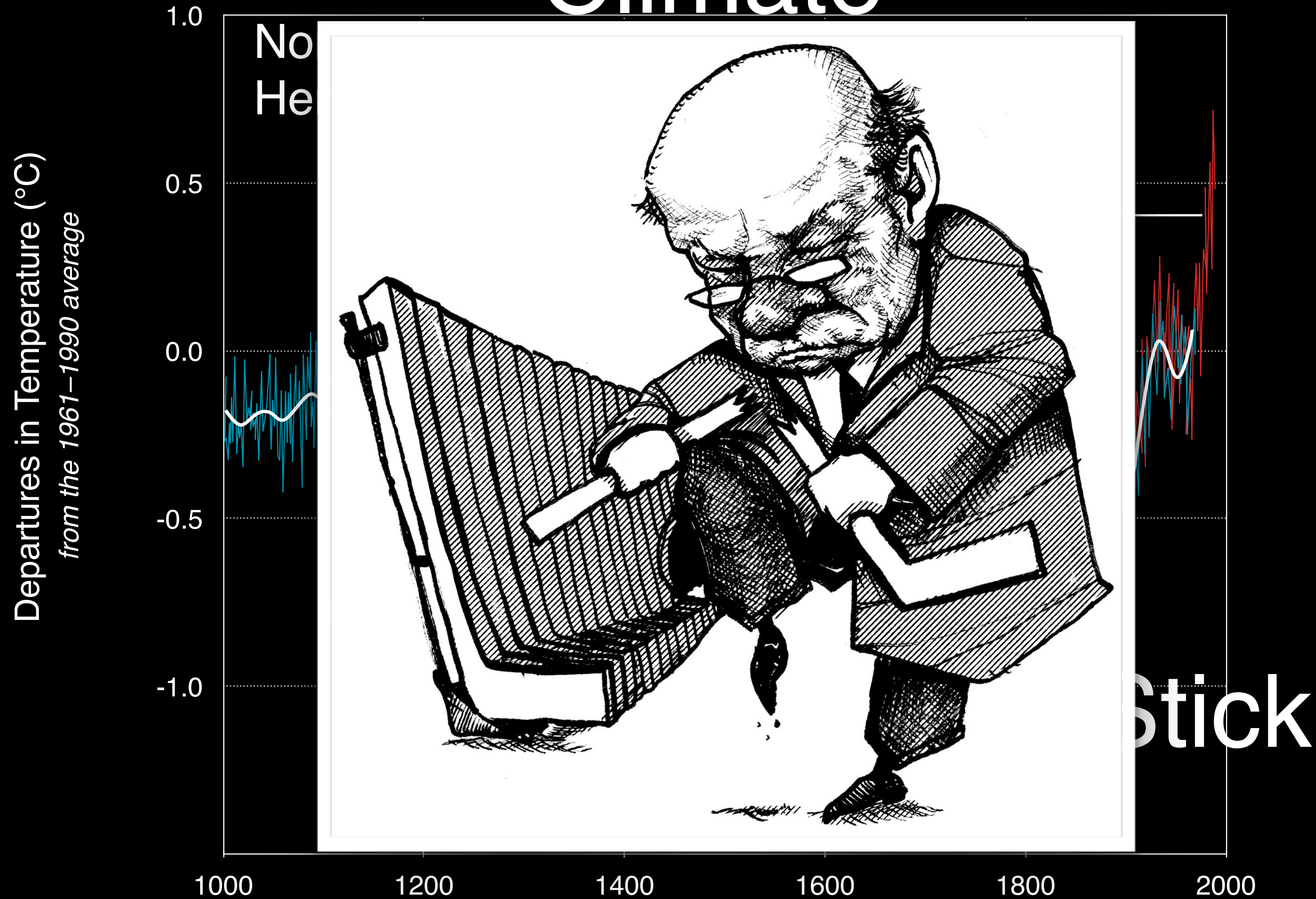
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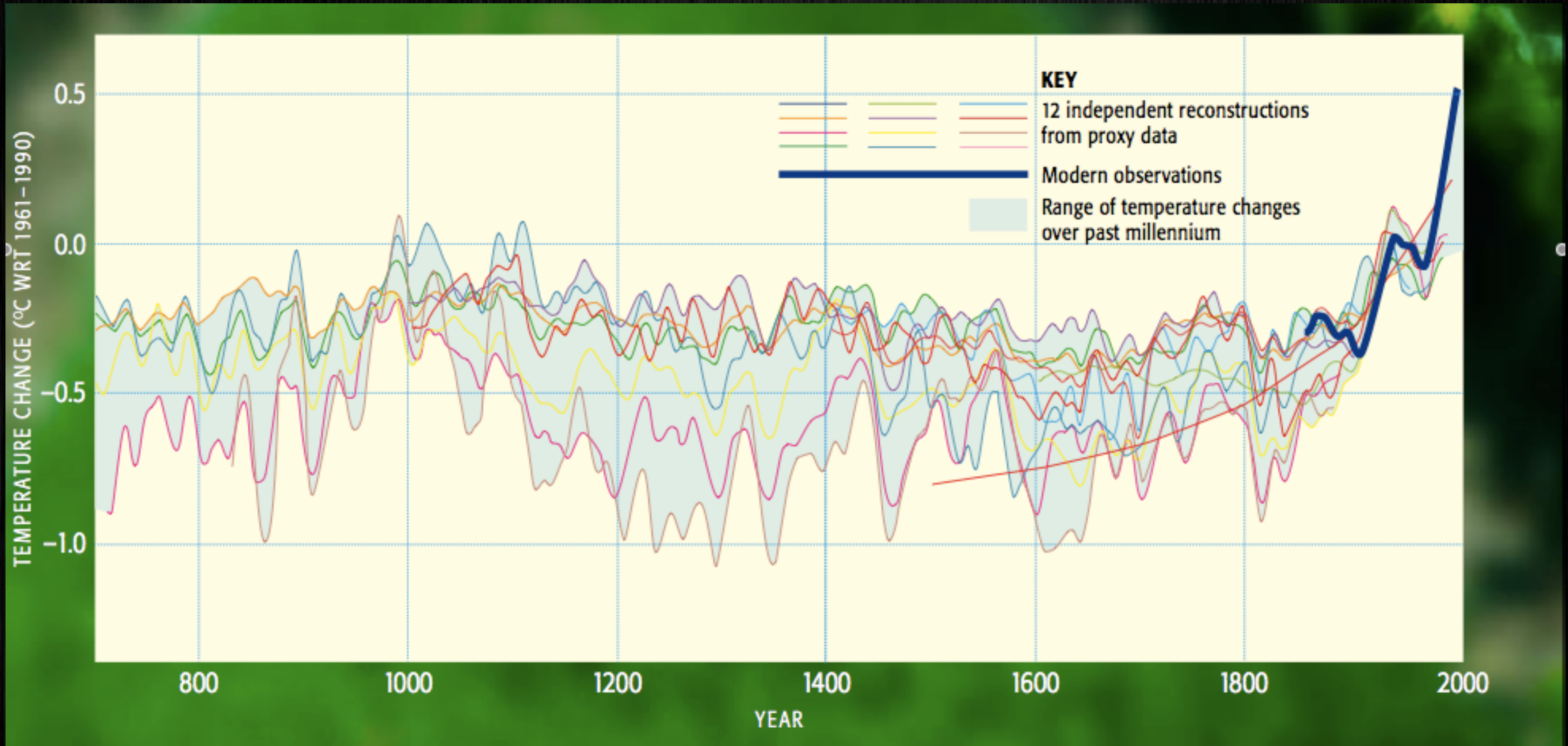
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Proxy Reconstructions of Past Climate



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Hockey League

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Geoffrey Lean

Geoffrey Lean is Britain's longest-serving environmental correspondent, having pioneered reporting on the subject almost 40 years ago.



Did the contentious global warming 'hockey stick' graph get it right after all?

By [Geoffrey Lean](#) **Science** Last updated: April 26th, 2013

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PUBLISHED ONLINE: XX MAY 2013 | DOI: 10.1038/NCEO1797

Continental-scale temperature variability during the past two millennia

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Past global climate changes had strong regional expression. To elucidate their spatiotemporal pattern, we reconstructed past temperatures for seven continental-scale regions during the past one to two millennia. The most coherent feature in nearly all of the regional temperature reconstructions is a long-term cooling trend, which ended late in the nineteenth century. At multi-decadal to centennial scales, temperature variability shows distinctly different regional patterns, with more similarity within each hemisphere than between them. There were no globally synchronous multi-decadal warm or cold intervals that define a worldwide Medieval Warm Period or Little Ice Age, but all reconstructions show generally cold conditions between AD 1580 and 1880, punctuated in some regions by warm decades during the eighteenth century. The transition to these colder conditions occurred earlier in the Arctic, Europe and Asia than in North America or the Southern Hemisphere regions. Recent warming reversed the long-term cooling; during the past 30 years (AD 1971–2000), the area-weighted average reconstructed temperature was higher than any other time in nearly 1,400 years.

Hockey League

The Telegraph

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Geoffrey Lean

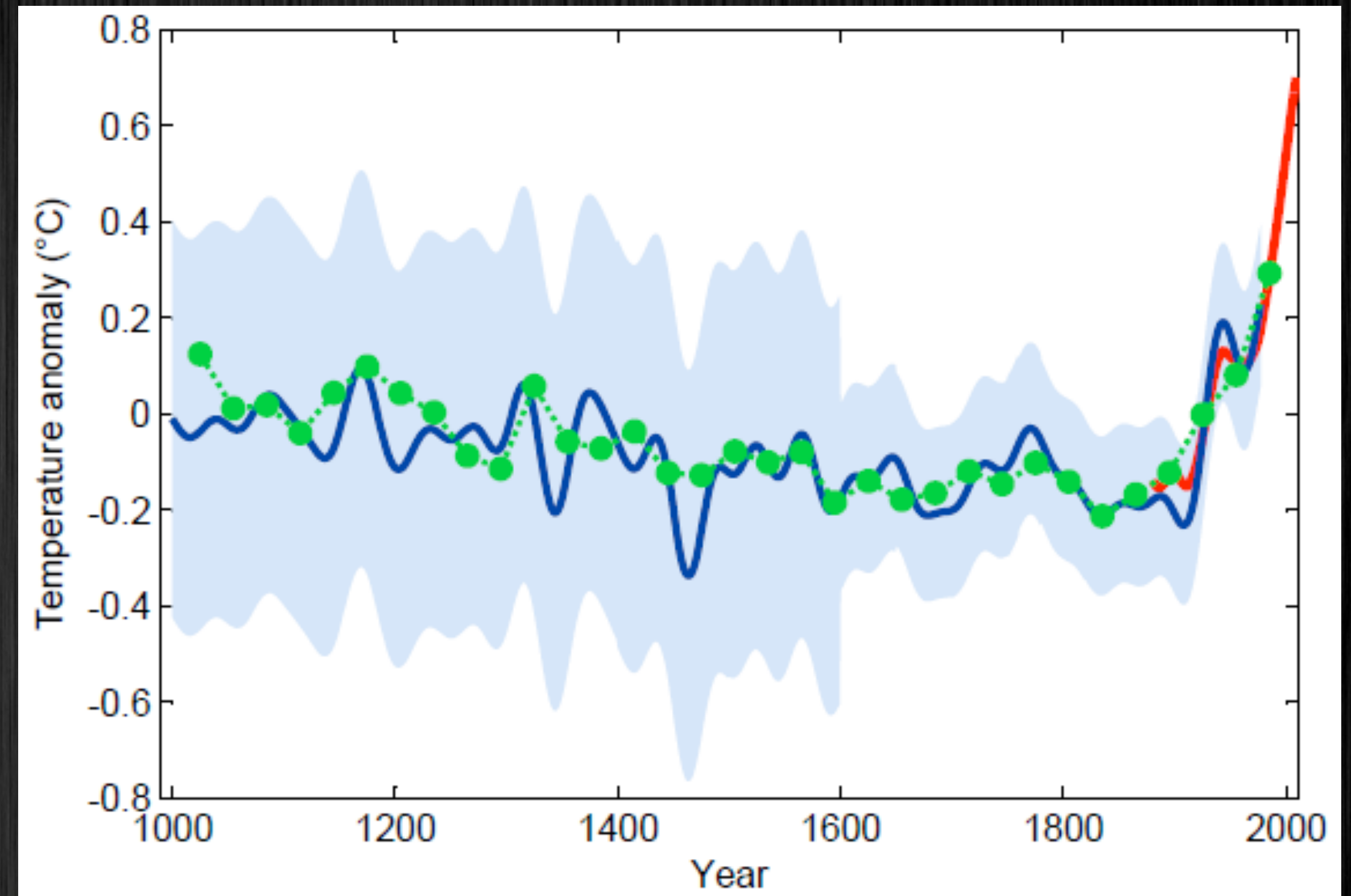
Geoffrey Lean is Britain's longest-serving environmental correspondent, having pioneered reporting on the subject almost 40 years ago.



Did the contentious global warming 'hockey stick' graph get it right after all?

By **Geoffrey Lean** | **Science** | Last updated: April 26th, 2013

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PROGRESS ARTICLE

PUBLISHED ONLINE: XX MAY 2013 | DOI: 10.1038/NCEO1797

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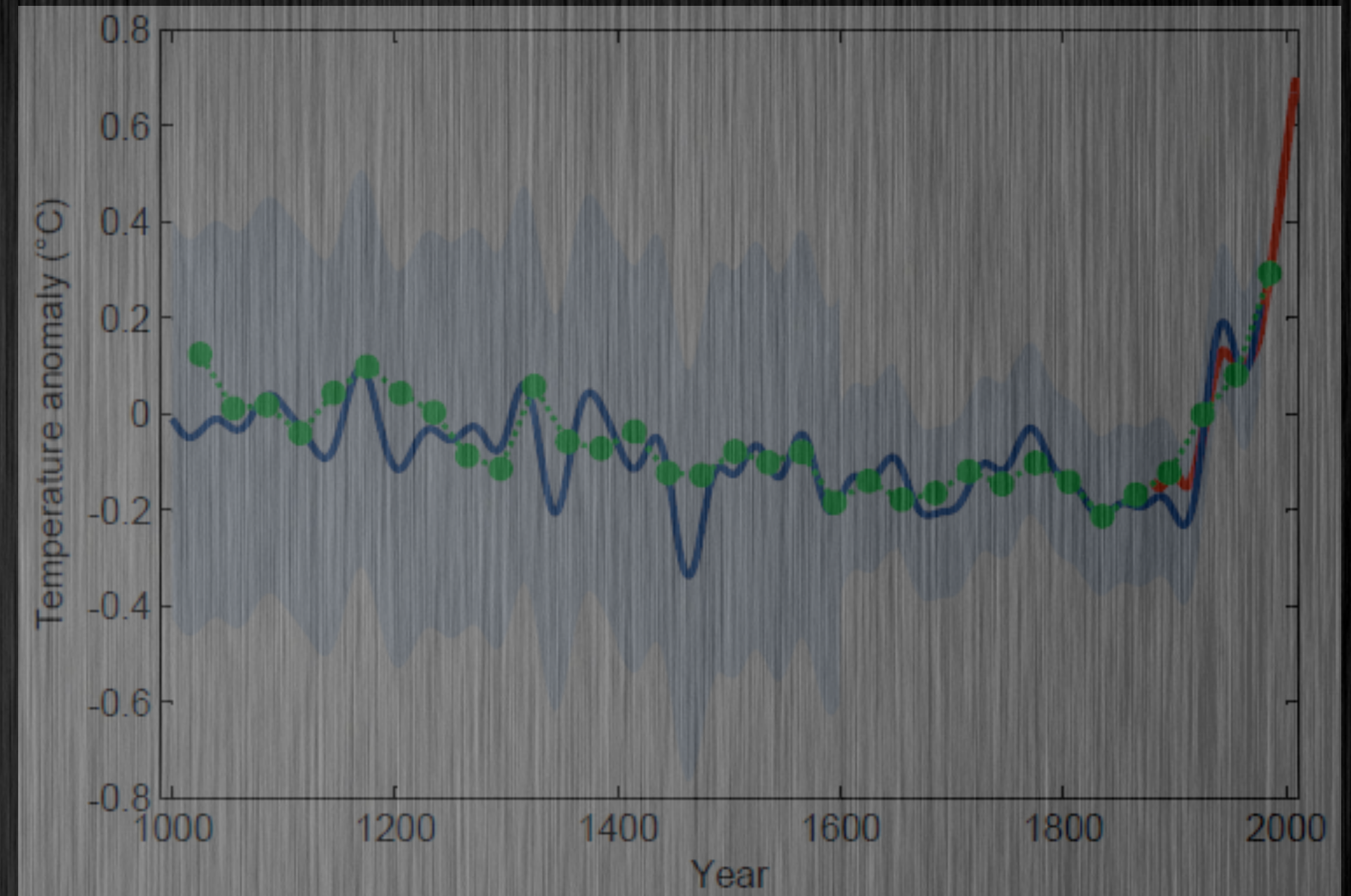
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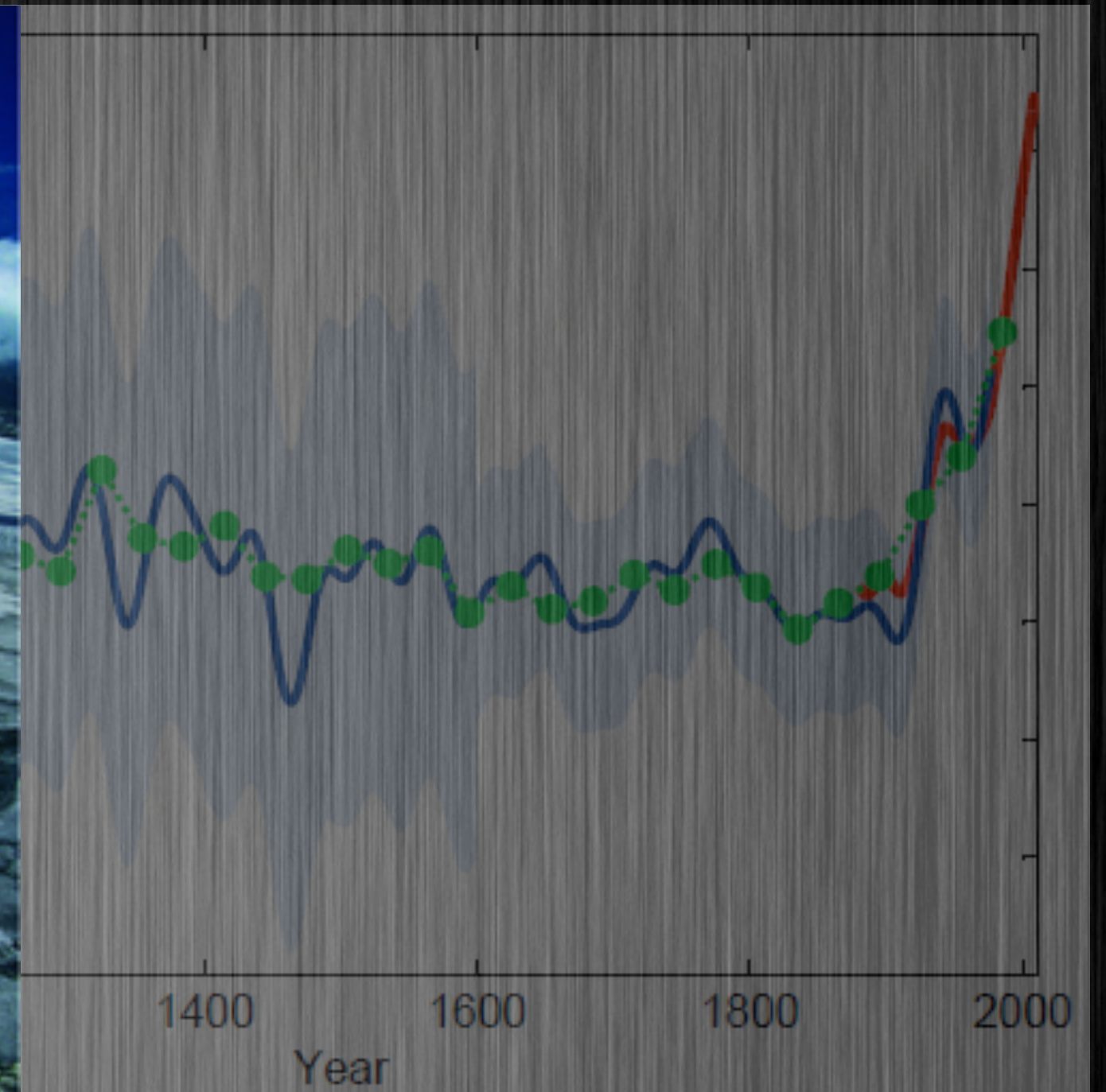
ipcc
INTERGOVERNMENTAL PANEL ON climate change



CLIMATE CHANGE 2013
The Physical Science Basis

WG I

WORKING GROUP I CONTRIBUTION TO THE
FIFTH ASSESSMENT REPORT OF THE
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



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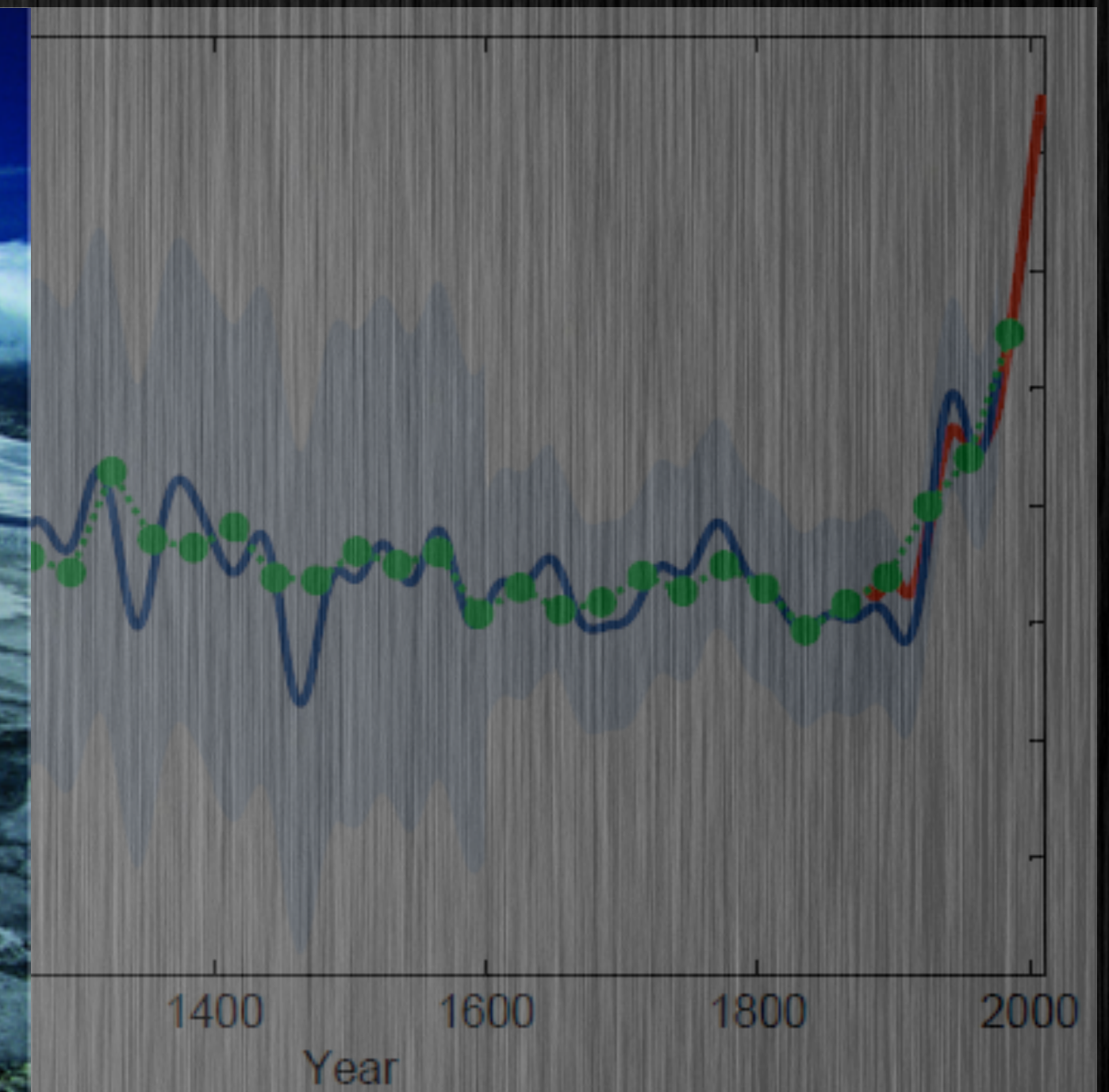
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Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850 (see Figure SPM.1). In the Northern Hemisphere, 1983–2012 was *likely* the warmest 30-year period of the last 1400 years (*medium confidence*). {2.4, 5.3}

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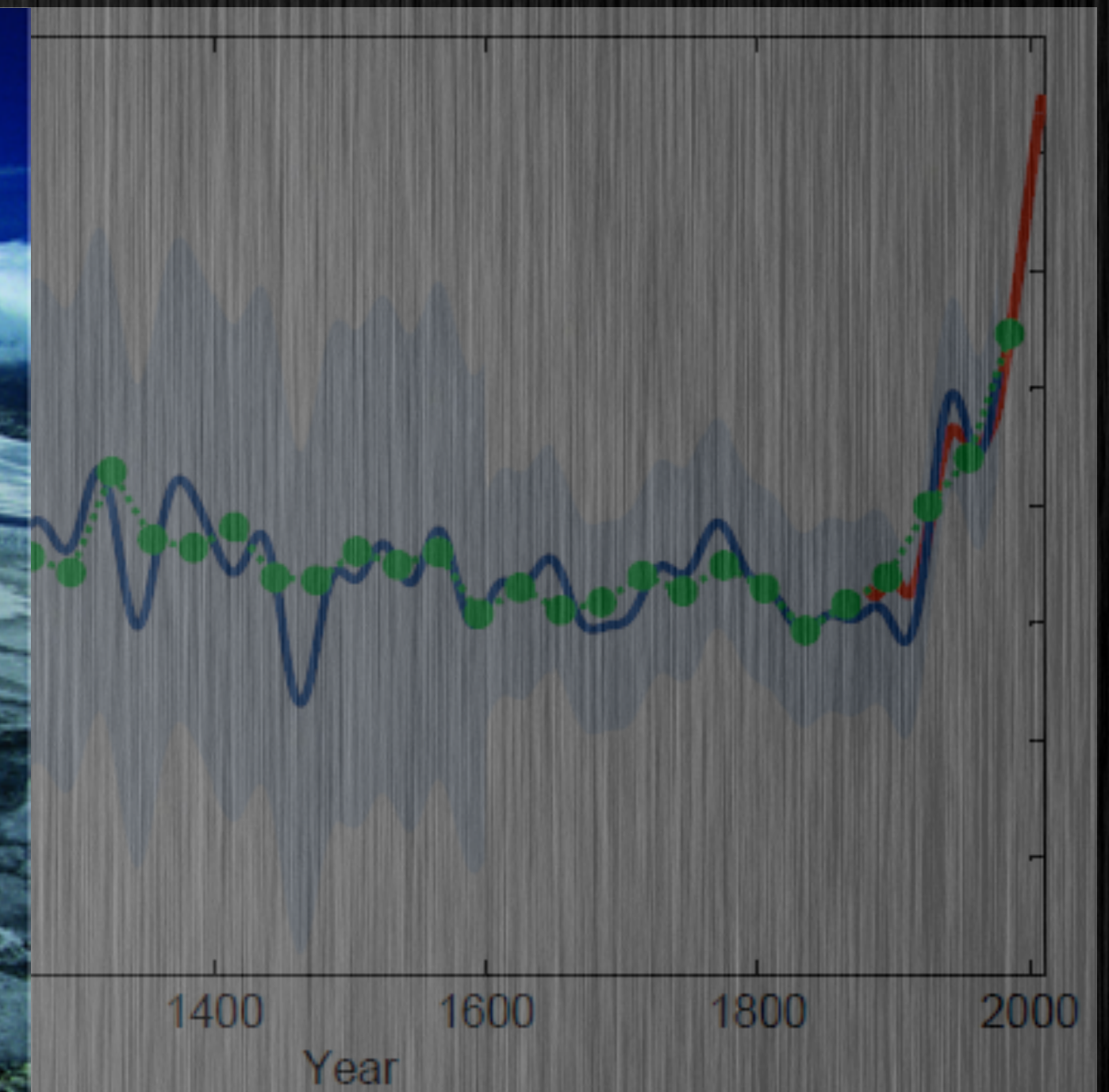
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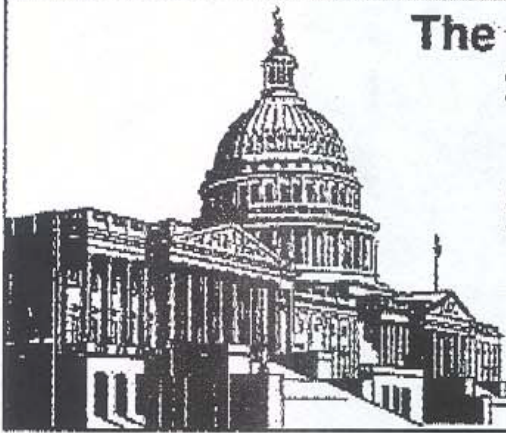
OF

CONGRESSMAN JOE BARTON, (R) TEXAS




CONGRESSMAN JOE BARTON, (R) TEXAS

From: House Energy & Commerce Cmte Ford 202-225-2441 Photo: 11/06/05

**The Committee on Energy and Commerce**
U.S. House of Representatives

Joe Barton, Chairman
Fax Transmission


2125 Rayburn House Office Building
Washington, D.C. 20515
(202) 225-2927
Fax: (202) 225-1919

To: Dr. Michael Mann

From: The Honorable Ed Whitfield, Chairman, Subcommittee
on Oversight and Investigations

Fax: 434-982-2137

Date: June 23, 2005

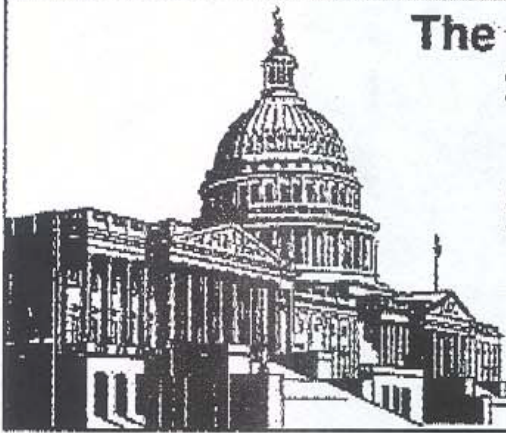

Phone: 434-924-7770

Pages: 5, including cover

Notes: Hard copy to follow by U.S. Mail.

CONGRESSMAN JOE BARTON, (R) TEXAS

From: House Energy & Commerce Cmte Ford 202-225-2441 Photo: 11/06/05

	The Committee on Energy and Commerce <i>U.S. House of Representatives</i>
	Joe Barton, Chairman
	Fax Transmission
	2125 Rayburn House Office Building, Washington, D.C. 20515 (202) 225-2927 Fax: (202) 225-1919
	

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on Oversight and Investigations

Fax: 434-982-2137

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MICHAEL C. BURGESS, TEXAS
MARSHA BLACKDURN, TENNESSEE

ONE HUNDRED NINTH CONGRESS

U.S. House of Representatives
Committee on Energy and Commerce
Washington, DC 20515-6115

JOE BARTON, TEXAS
CHAIRMAN

June 23, 2005

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MIKE ROSS, ARKANSAS

To: RUD ALDRIGHT, STAFF DIRECTOR

From:

Fax:

Date:

Phone:

Pages:

Notes:

Dr. Michael Mann
Assistant Professor
Department of Environmental Sciences
University of Virginia
Charlottesville, VA 22904

Dear Dr. Mann:

Questions have been raised, according to a February 14, 2005 article in *The Wall Street Journal*, about the significance of methodological flaws and data errors in your studies of the historical record of temperatures and climate change. We understand that these studies of temperature proxy records (tree rings, ice cores, corals, etc.) formed the basis for a new finding in the 2001 United Nation's Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report (TAR). This finding – that the increase in 20th century northern hemisphere temperatures is “likely to have been the largest of any century during the past 1,000 years” and that the “1990s was the warmest decade and 1998 the warmest year” – has since been referenced widely and has become a prominent feature of the public debate surrounding climate change policy.





Alan I. Leshner
Chief Executive Officer and
Executive Publisher, *Science*

July 13, 2005

The Honorable Joe Barton, Chair
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

On behalf of the American Association for the Advancement of Science (AAAS), the world's largest general science society and the publisher of the peer-reviewed journal, *Science*, I am writing to express deep concern about letters recently sent by the Committee to several scientists, including Drs. Michael S. Mann, Malcom K. Hughes, and Raymond S. Bradley, regarding their research in climate science.



Alan I. Leshner
Chief Executive Officer and
Executive Publisher, *Science*

The Honorable Joe
Committee on En
U.S. House of Rep
Washington, DC

Dear Mr. Chairma

On behalf of
general science sc
deep concern abo
Mann, Malcom K



8 August 2005

The Honorable Joe Barton
Chairman, Committee on Energy and Commerce
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Barton:

We are the Presidents of the two US societies whose more than 50,000 members include most scientists engaged in climate research. However, we write today not primarily about climate research, but about the deleterious effects your requests to Drs. Mann, Hughes, and Bradley, and the National Science Foundation could have on the quality of science and its utility to you in the public policy process.

Alan I. Leshner
Chief Executive Officer and
Executive Publisher, *Science*

The Honorable Joe
Committee on Energy and Environment
U.S. House of Representatives
Washington, DC

Dear Mr. Chairman:

On behalf of
general science scientists,
I express my deep concern about
the actions of Dr. Mann, Malcom K.



8 August 2005

The Honorable Joe Barton
Chairman, Committee on Energy and Environment
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515

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nature

www.nature.com/nature

Vol 436 | Issue no. 7047 | 7 July 2005

Climate of distrust

Six months into President George W. Bush's second term of office, partisan politics continues to widen the gulf between researchers and the administration.

The story has become so familiar that new twists in the plot cease to outrage. Time after time, in agency after agency, political factors have prevented US science from serving its time-honoured role in informing government decisions.

In one of the latest examples, Congressman Joe Barton (Republican, Texas) has asked three climate researchers, along with the heads of the National Science Foundation and the Intergovernmental Panel on Climate Change (IPCC), for background information on certain palaeoclimate research. On the surface, such a request seems natural. The congressman heads the House of Representatives' Committee on Energy and Commerce, which deals with environmental matters, among other topics.

But dig a little deeper and you find Joe Barton is not known as a friend of the environment. His home town's newspaper, *The Dallas Morning News*, nicknamed him 'Smokey Joe' for his efforts to exempt cement plants in his district from stricter anti-smog rules. This spring

questioning and overthrowing of currently accepted ideas, and the detail of Mann and colleagues' work has itself been debated within the climate community. Barton, in contrast, has chosen to cherry-pick selected information on the hockey-stick work, using an article from *The Wall Street Journal* as his scientific guide.

Even President George Bush, in widely reported comments last weekend, now accepts that humans are contributing to climate change. But by requesting information on research that does not fit his world view, Barton seems determined to use his political influence to put pressure on the scientific process.

Questions remain over how this might affect scientists' contributions to the next IPCC

"Congressman Barton has chosen to cherry-pick selected information, using an article from *The Wall Street Journal* as his guide."

2204 RAYBURN HOUSE OFFICE BUILDING
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LOS ANGELES, CA 90048-4183
(323) 651-1040
(818) 878-7400
(310) 652-3095

Congress of the United States
House of Representatives
Washington, DC 20515-0530

HENRY A. WAXMAN
30TH DISTRICT, CALIFORNIA

July 1, 2005

The Honorable Joe Barton
Chairman
Committee on Energy and Commerce
2125 Rayburn House Office Building
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

On June 23, 2005, you wrote to three of the world's most respected experts on global warming to demand information about "all financial support" they ever received during their long and distinguished careers, "the source of funding" for every study they ever conducted, "all data archives" for every published study they ever wrote, and multiple other burdensome and intrusive subjects.

SENIOR DEMOCRATIC MEMBER
COMMITTEE ON
GOVERNMENT REFORM

MEMBER
COMMITTEE ON
ENERGY AND COMMERCE



CONGRESSMAN HENRY WAXMAN, (D) CALIFORNIA



Photo by Carol T. Powers for The New York Times

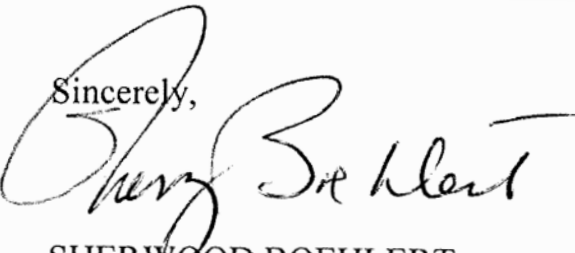
CONGRESSMAN SHERWOOD BOEHLERT, (R) NEW YORK

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE

SUITE 2320 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6301
(202) 225-6371
TTY: (202) 226-4410
<http://www.house.gov/science/welcome.htm>

July 14, 2005

The Honorable Joe Barton
Chairman
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Sincerely,

SHERWOOD BOEHLERT
Chairman

Dear Mr. Chairman:

I am writing to express my strenuous objections to what I see as the misguided and illegitimate investigation you have launched concerning Dr. Michael Mann, his co-authors and sponsors.

First, your Committee lacks jurisdiction over this matter. Both the National Science Foundation and climate change research are under the purview of the House Committee on Science. This is in no way my central concern about your investigation, but I raise it at the outset because it may have legal implications as you proceed. Jurisdiction is also relevant because the insensitivity toward the workings of science demonstrated in your investigative letters may reflect your Committee's inexperience in the areas you are investigating.

My primary concern about your investigation is that its purpose seems to be to intimidate scientists rather than to learn from them, and to substitute Congressional political review for scientific peer review. This would be pernicious.

It is certainly appropriate for Congress to try to understand scientific disputes that impinge on public policy. There are many ways for us to do that, including hearings with a balanced set of witnesses, briefings with scientists, and requests for reviews by the National Academy of Sciences or other experts.

But you have taken a decidedly different approach – one that breaks with precedent and

THE CHRONICLE OF HIGHER EDUCATION
The Chronicle Review

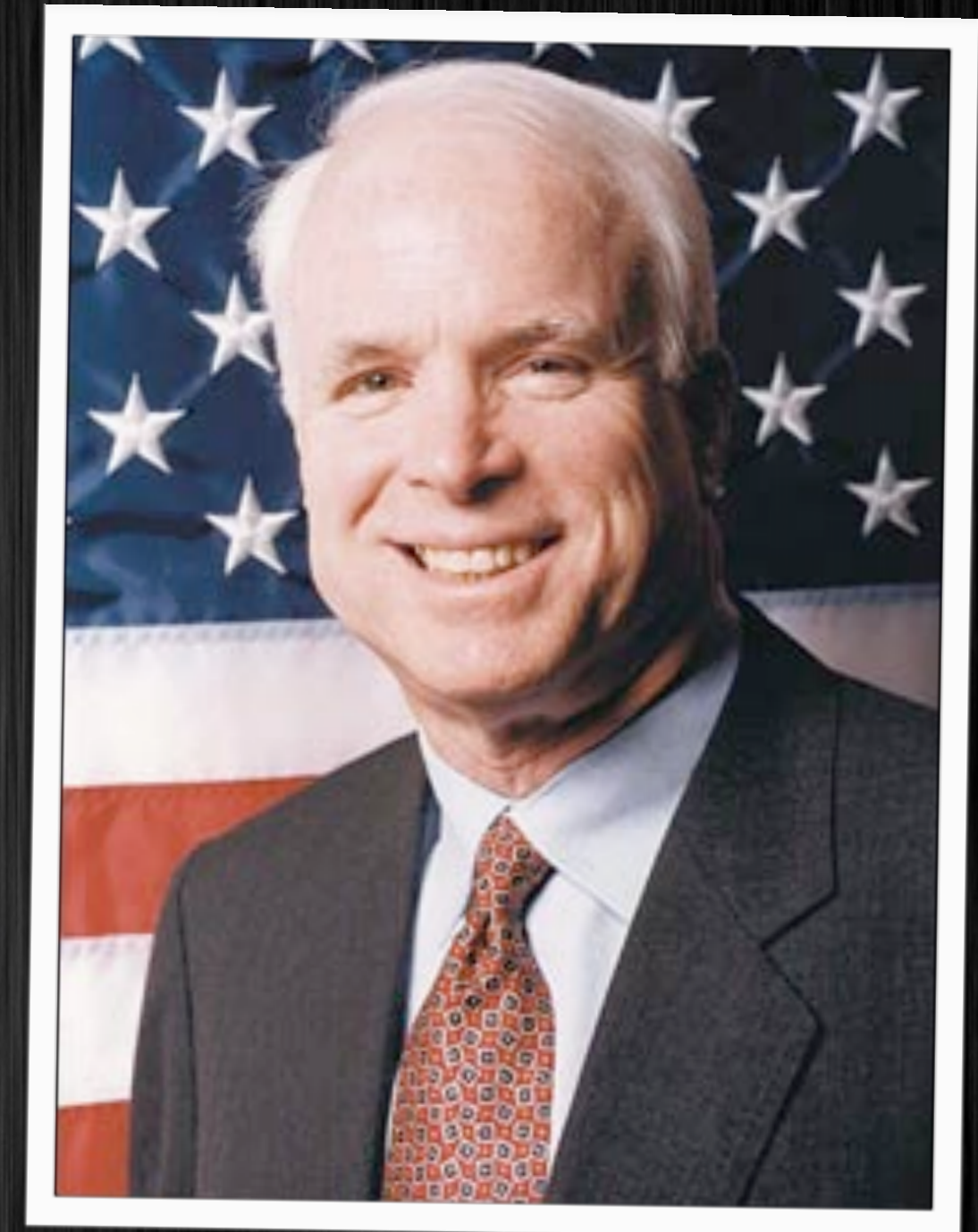
From the issue dated September 2, 2005

POINT OF VIEW

Politics vs. the Integrity of Research

By U.S. SEN. JOHN MCCAIN
and PETER LIKINS

Global warming is happening
now.



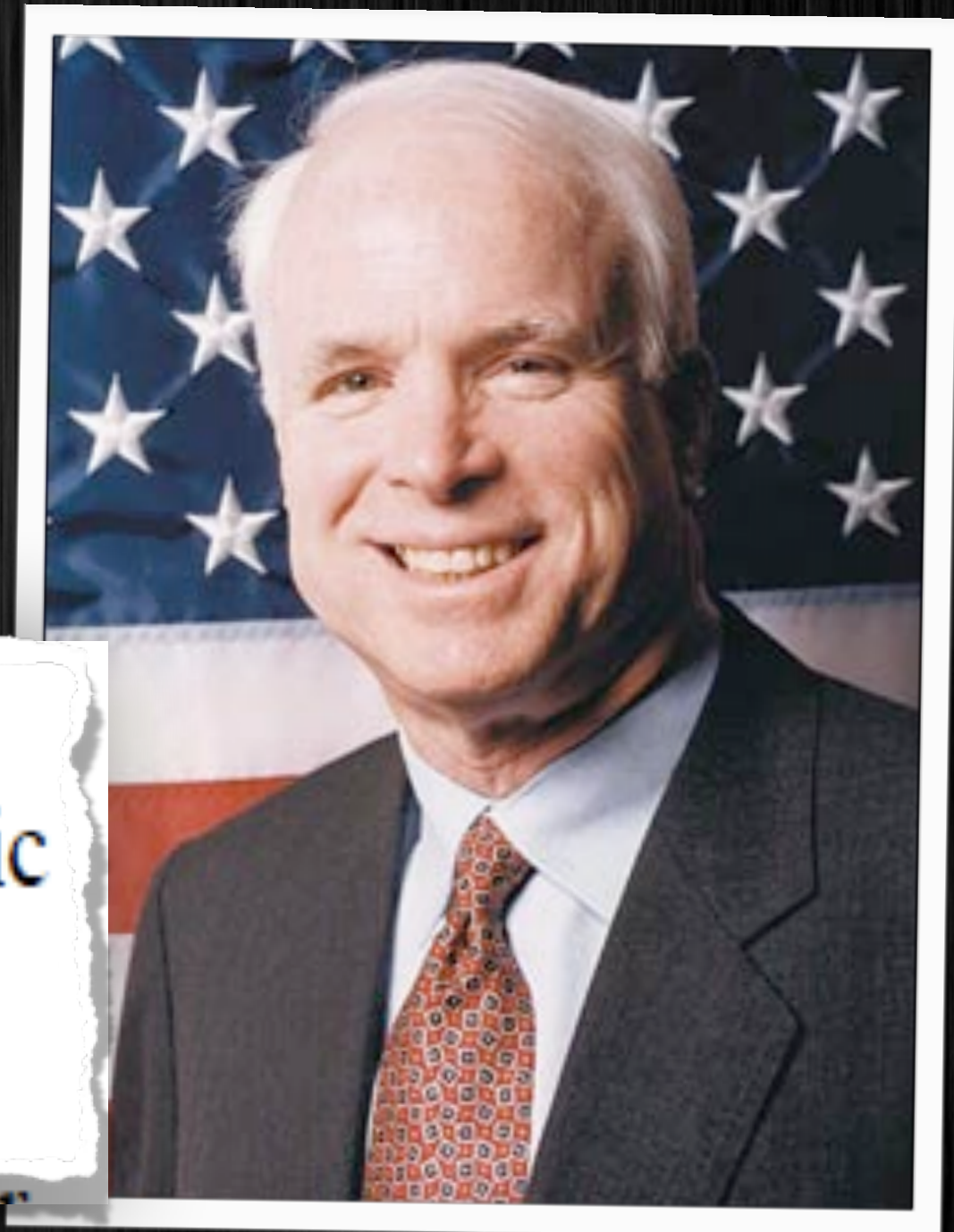
SENATOR JOHN MCCAIN, (R) ARIZONA

THE CHRONICLE OF HIGHER EDUCATION
The Chronicle Review

From the issue dated September 2, 2005

The message sent by the Congressional committee to the three scientists was not subtle: Publish politically unpalatable scientific results and brace yourself for political retribution, which might include denial of the opportunity to compete for federal funds.

Global warming is happening now.



SENATOR JOHN McCAIN, (R) ARIZONA

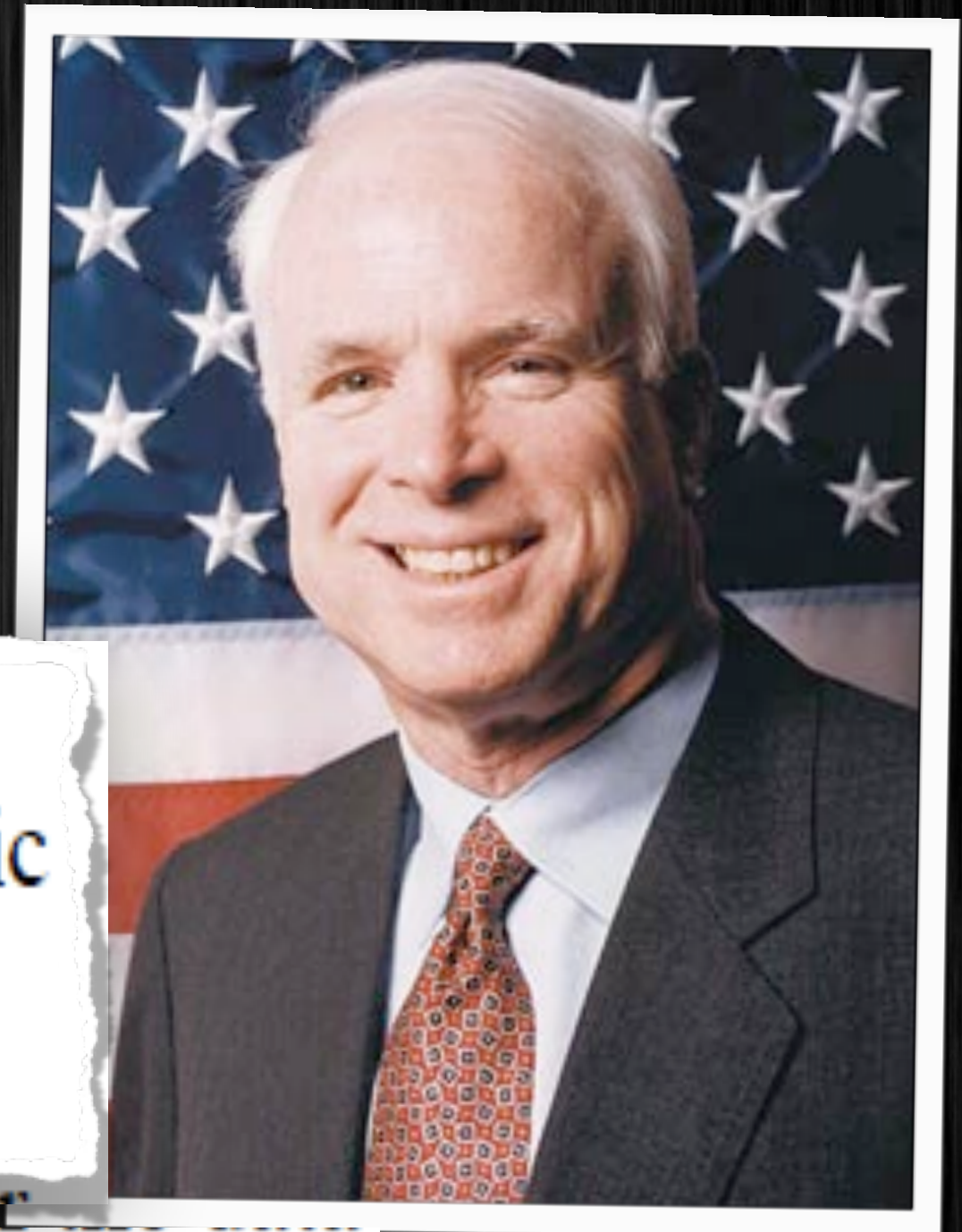
THE CHRONICLE OF HIGHER EDUCATION
The Chronicle Review

From the issue dated September 2, 2005

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Statements that such requests are routine are hollow. A clue for

produced in a scientist's career is highly irregular. It represents a kind of intimidation, which threatens the relationship between science and public policy. That behavior must not be tolerated.



SENATOR JOHN McCAIN, (R) ARIZONA





Sarah Palin 'ClimateGate': Calls For Obama To Boycott Copenhagen



Glenn Beck Skewers Scientists Involved In ClimateGate



By Noel Sheppard (Bio I Archive)
November 23, 2009 - 23:36 ET

SHARE

Fox News's Glenn Beck took on the global warming e-mail scandal known as ClimateGate Monday, and really laid into all the high-profile scientists involved.

As NewsBusters reported Friday, hacked e-mail messages to and from folks with direct access to the United Nations' Intergovernmental Panel on Climate Change show a concerted effort on the part of these powerful scientists to manipulate temperature data in order to exaggerate average global temperatures.

As Beck pointed out Monday, those involved also conspired to prevent viewpoints counter to their own from getting published in scientific journals or becoming part of IPCC reports.







The Washington Post

Copenhagen's political science

By Sarah Palin

Wednesday, December 9, 2009

The e-mails reveal that leading climate "experts" deliberately destroyed records, manipulated data to "hide the decline" in global temperatures



The Washington Post

Copenhagen's political science

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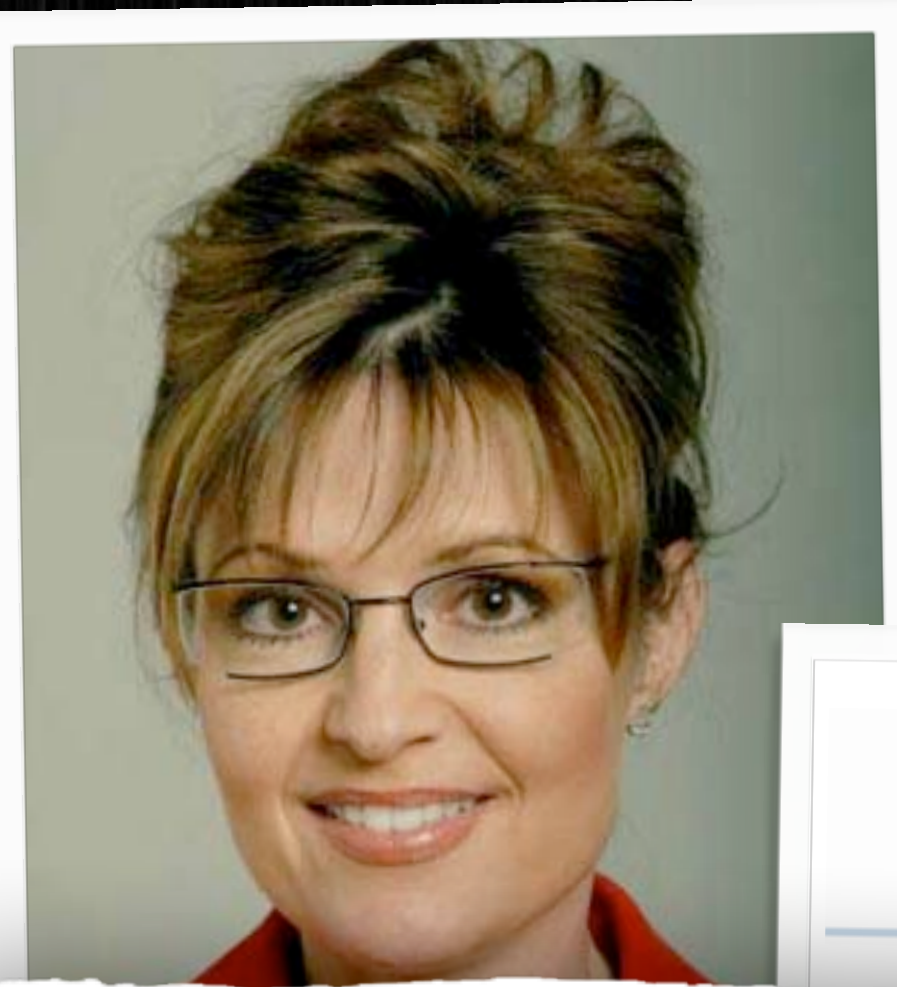


E-mail furor doesn't alter evidence for climate change

By Michael E. Mann

Friday, December 18, 2009

The hacked e-mails have been mined for words and phrases that can be distorted to misrepresent what the scientists were discussing. In a [Dec. 9 op-ed](#), former Alaska governor Sarah Palin argued that "The e-mails reveal that leading climate 'experts' . . . manipulated data to 'hide the decline' in global temperatures." Yet the e-mail she cites was written in 1999, just after the warmest year ever recorded (1998) to that date. It could not possibly have referred to the claim that global temperatures have declined over this decade -- a claim that is false (the current decade, as has been recently reported, will go down as the warmest on record).



The Washington Post



E-mail furor doesn't alter evidence for climate change

“a lot of those emails obviously weren't meant for public consumption” and could be misinterpreted if “taken out of context.”

—Sarah Palin, June 2011

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LIVE ALERT

FOX NEWS
4:21 ET

GOP LAWMAKER CALLING
FOR "CLIMATEGATE" PROBE

THE WORLD
EARTH

NEW YORK AND THE DECISION COULD PUT THEM AT 1 DOW TRN 33.09

US Senate's top climate sceptic accused of waging 'McCarthyite witch-hunt'

James Inhofe calls for criminal investigation of climate scientists as senators prepare proposal that would ditch cap and trade

Suzanne Goldenberg, US environment correspondent
guardian.co.uk, Monday 1 March 2010 17.14 GMT
[Article history](#)



US Senate's top climate sceptic accused of waging 'McCarthyite witch-hunt'

James Inhofe calls for criminal investigation of climate scientists as senators prepare proposal that would ditch cap and trade

Suzanne Goldenberg, US environment correspondent
guardian.co.uk, Monday 1 March 2010 17.14 GMT
[Article history](#)



Sen. Inhofe Leading Witch Hunt to Prosecute 17 Climate Scientists

by Brian Merchant, Brooklyn, New York on 02.25.10

BUSINESS & POLITICS



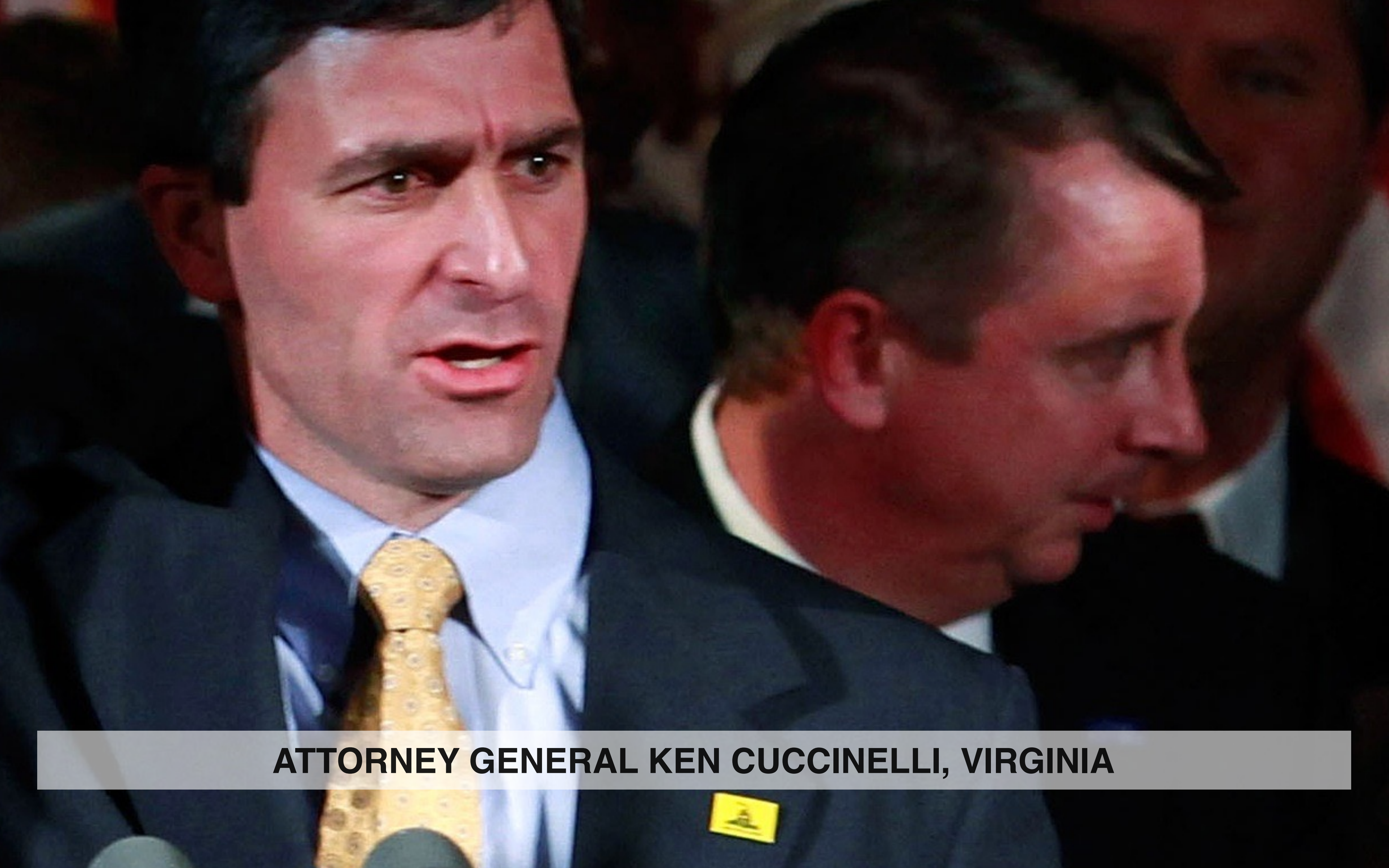
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Photo via [KWTV](#)

In a move that bears an eerie resemblance to the communist witch hunts lead by McCarthy, the infamous climate action opponent [Sen. James Inhofe](#) is leading an inquisition to attempt to prosecute 17 leading climate scientists. Their crimes? Doing climate science and participating in the IPCC. In other words, anything Inhofe can distort to sound like one—so far, he's come up with 7 laws he thinks scientists 'might have' violated, and is embarking on an inquisition that would simply be a farce if it weren't also disturbing.



ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA

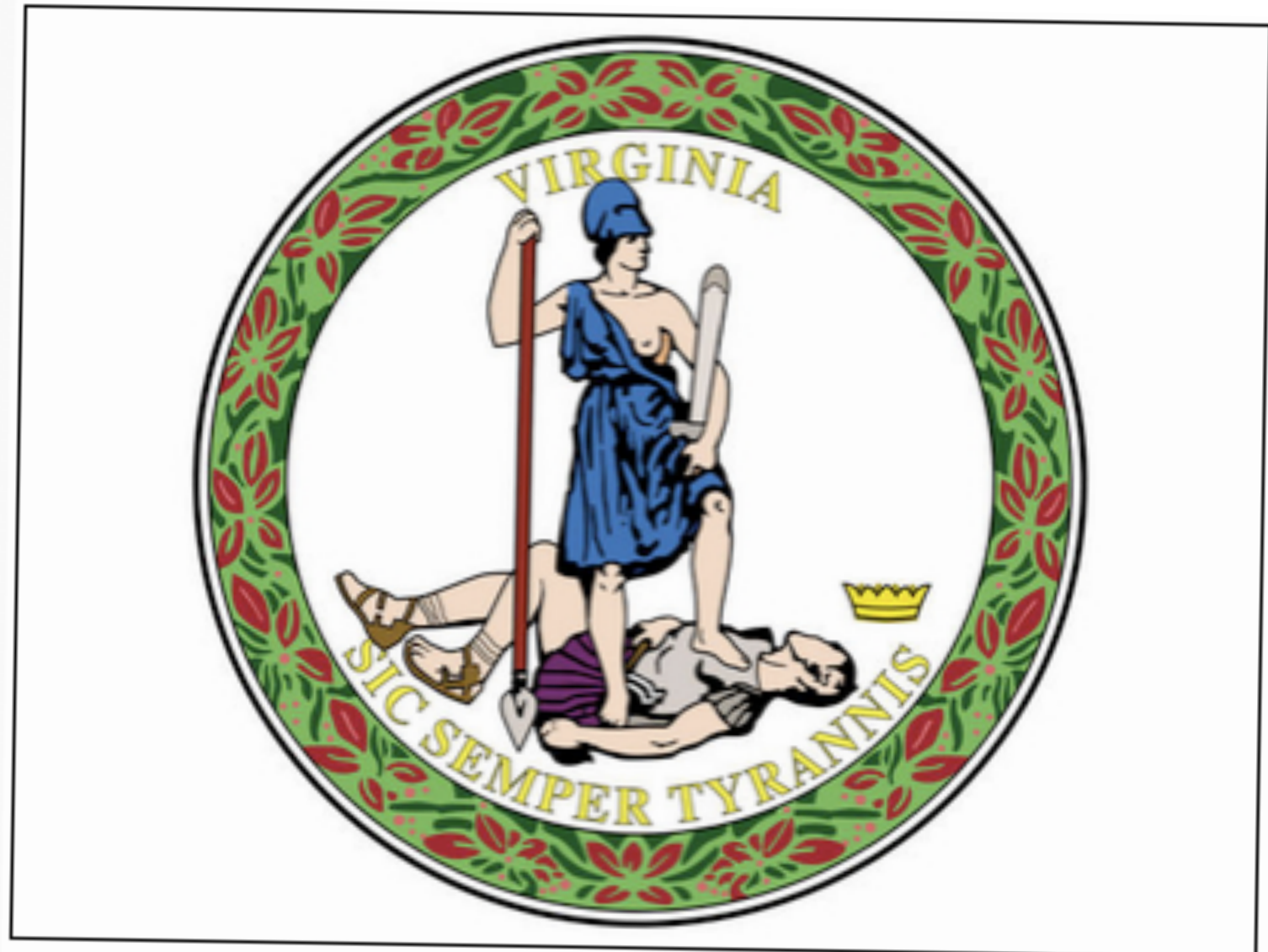


Cuccinelli Censors Virginia Seal

Attorney general covers up goddess's breast

By MATTHEW STABLEY

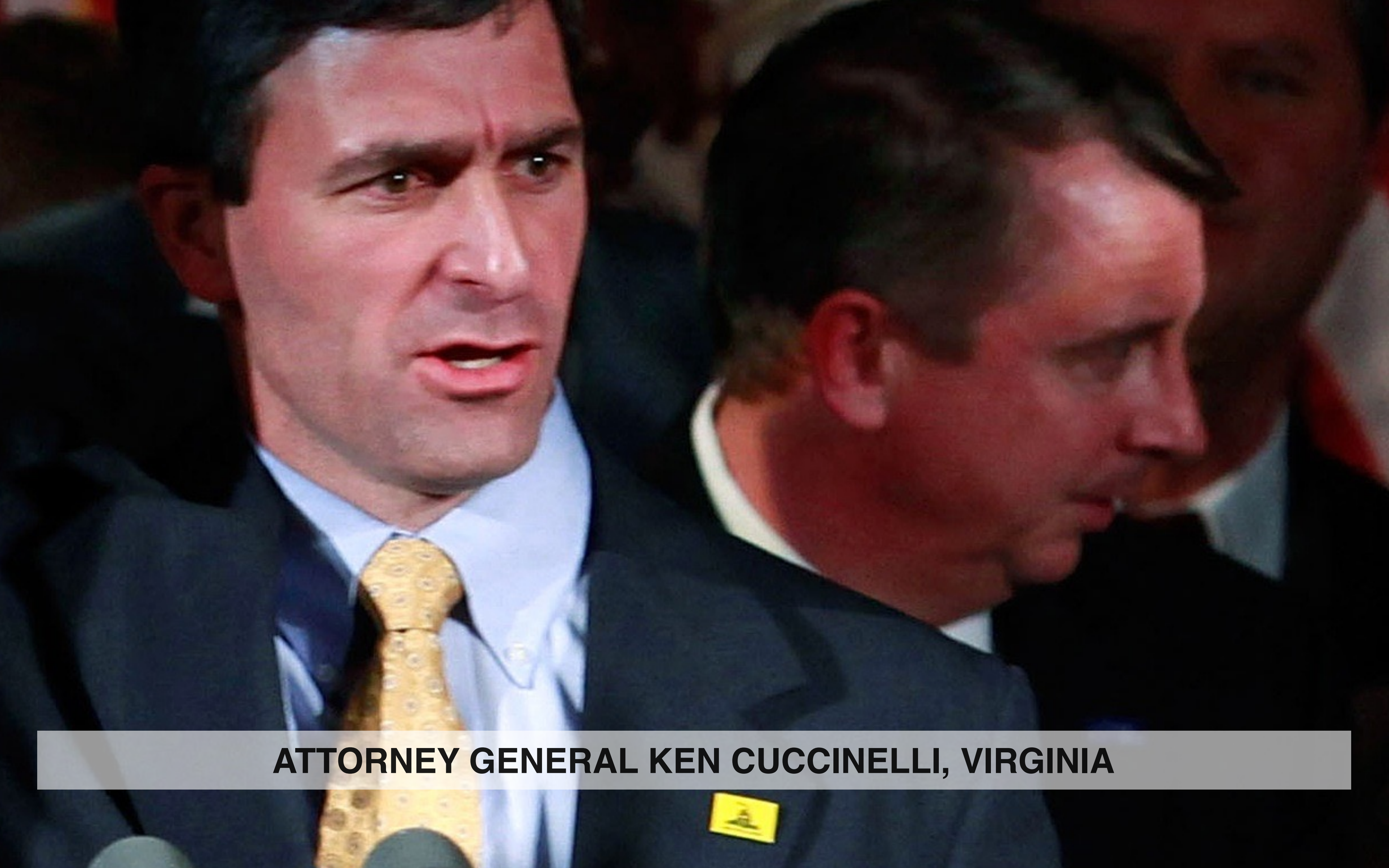
Updated 7:06 PM EST, Mon, May 3, 2010



Virginia Attorney General Ken Cuccinelli risked more national ridicule when he gave his staff a PG version of the commonwealth seal recently.

The seal features the Roman goddess Virtus in a pose that suggests she might be about to compromise her virtue. Her blue tunic is draped over one shoulder, leaving her left breast exposed like she's performing in a Super Bowl halftime show.

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



Attorney general demands papers on climate data from UVa

By [BRIAN MCNEILL](#)
Published: May 01, 2010

**The
Daily Progress**

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA

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Daily Progress

OFFICE OF THE ATTORNEY GENERAL
COMMONWEALTH OF VIRGINIA
900 EAST MAIN STREET
RICHMOND, VIRGINIA 23219

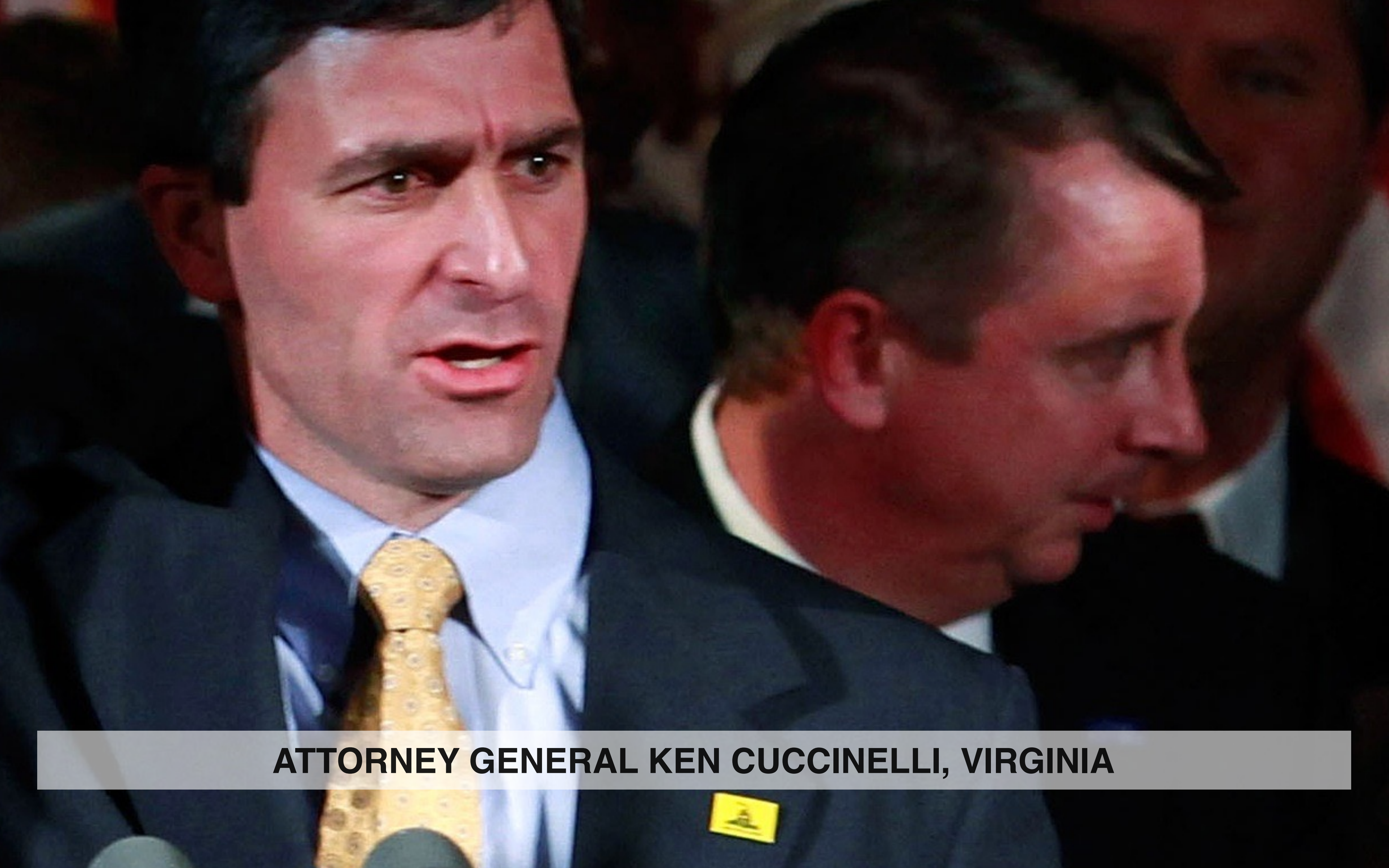
CID NO. 2-MM

TO: The Rector and Visitors of the University of Virginia
SERVE: John O. Wynne, Rector
University of Virginia
One Commercial Place, Suite 1420
Norfolk, VA 23510

CIVIL INVESTIGATIVE DEMAND

The Attorney General of the Commonwealth of Virginia, pursuant to the authority conferred upon him by the Virginia Fraud Against Taxpayers Act ("FATA"), *Virginia Code* § 8.01-216.1, *et seq.*, hereby commands your production of the information and documentary materials described in the Attachment hereto at the Office of the Attorney General, 900 East Main Street, Richmond, Virginia 23219, on the 27th day of May, 2010 at 10:00 a.m.

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA

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May 7, 2010

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VA Attorney General's Misguided Investigation

Virginia Attorney General Ken Cuccinelli's office is [investigating](#) former University of Virginia (UVA) professor Michael Mann, a climate scientist, under the [Fraud Against Taxpayers Act](#) (FATA). The attorney general, [who does not believe climate change is caused by human activity](#), says he wants to learn whether Mann used state grants to defraud Virginia taxpayers about climate change. The section of the FATA in question makes it illegal to "knowingly" present a "false or fraudulent" claim to the state in order to obtain compensation.

On April 23, Cuccinelli's office served UVA with a Civil Investigative Demand, essentially subpoenaing documents related to Mann's grants. Mann was on the UVA faculty between 1999 and 2005. He now works as a professor at Penn State University.

Why is this Investigation Inappropriate?

Science thrives on rigorous debate and a frank exchange of different ideas and perspectives. The freedom to openly disagree and discuss contentious scientific topics is fundamental to the scientific method. [Research shows](#) that scientific discovery is held back when government officials harass or intimidate scientists. This seemingly unprecedented action could set a dangerous precedent and stymie communication among scientists in many disciplines, preventing them from doing their best work.

Labeling controversial scientific findings as "fraudulent" is extremely troubling.

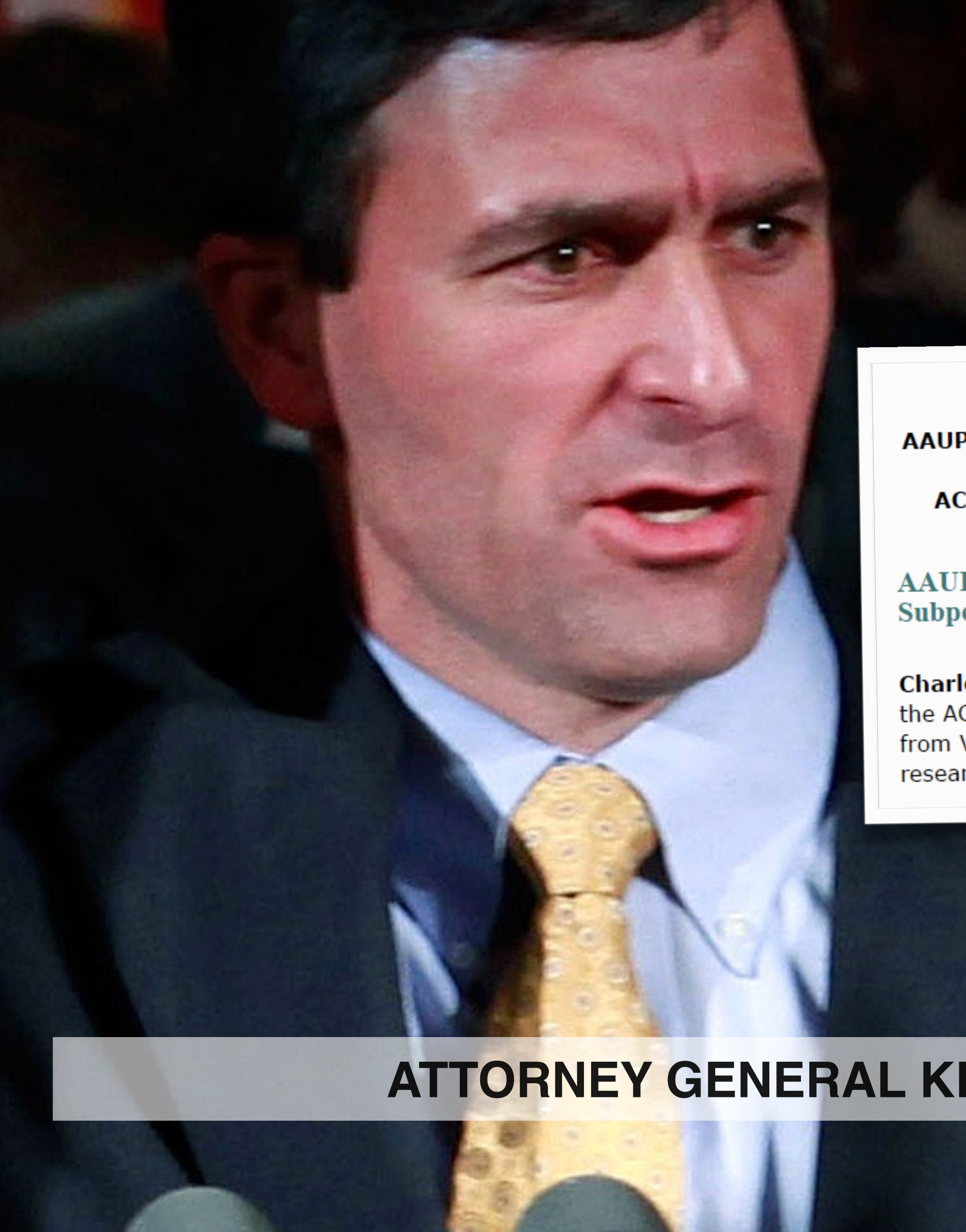
Vigorous debate and exchange of differing ideas are at the very core of the scientific method. Disagreement among scientists—to say nothing of disagreements between scientists and —is simply not the same thing as fraud.

Harassment of scientists can have disastrous effects for public health and public policy. One cautionary tale is that of Herbert Needleman, a pioneering researcher into the effects of lead on children whose research eventually led to policies that removed lead from gasoline. Needleman's work threatened the profit margins of the lead industry, which attacked him and his scientific reputation. Like Mann, Needleman was repeatedly exonerated but faced years of legal wrangling, investigations and hearings that took him away from his work and deprived the public of his insights and research.

The danger is that the subpoena will be used to further erode the public discourse on climate change and many other issues critical to public health and safety. Any individual email discussion or scientific paper may legitimately contain speculations or arguments that later turn out to be false. This is completely routine and should not be taken as evidence of fraud, much less evidence against climate change. By challenging minor mistakes made by their peers, scientists move slowly towards a better understanding of our world.

UCS [wrote a letter to Cuccinelli](#) asking him to rescind the subpoena. The American Association of University Professors has [joined the ACLU](#) in asking the University of Virginia to resist the subpoena. The UVA Faculty Senate has stated that Cuccinelli's actions "[directly threaten academic freedom](#)."

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



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May 6, 2010

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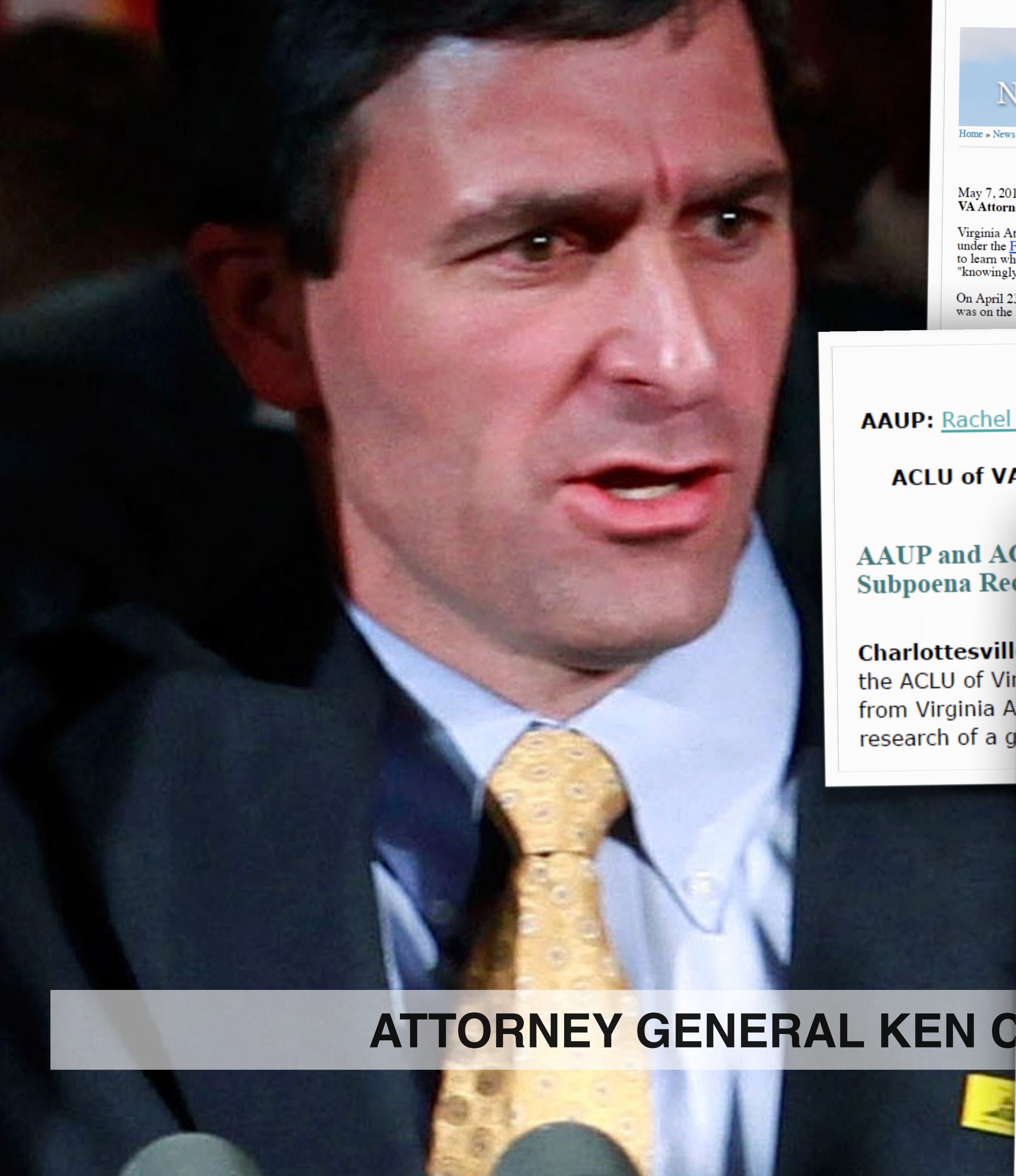
AAUP: [Rachel Levinson](#), Senior Counsel or [John Curtis](#), Director of Research and Public Policy

ACLU of VA: Rebecca K. Glenberg, Legal Director, 804-644-8080 or Kent Willis, Executive Director, 804-644-8080

AAUP and ACLU Ask UVA to Resist Attorney General's Attempt to Subpoena Records of Climate Science Professor

Charlottesville, VA—The American Association of University Professors and the ACLU of Virginia have asked the University of Virginia to fight demands from Virginia Attorney General Ken Cuccinelli for documents related to the research of a global warming expert once employed by the school.

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May 7, 2010

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**AAUP and ACLU
Subpoena Rec**

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Foundation for Individual Rights in Education

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May 12, 2010

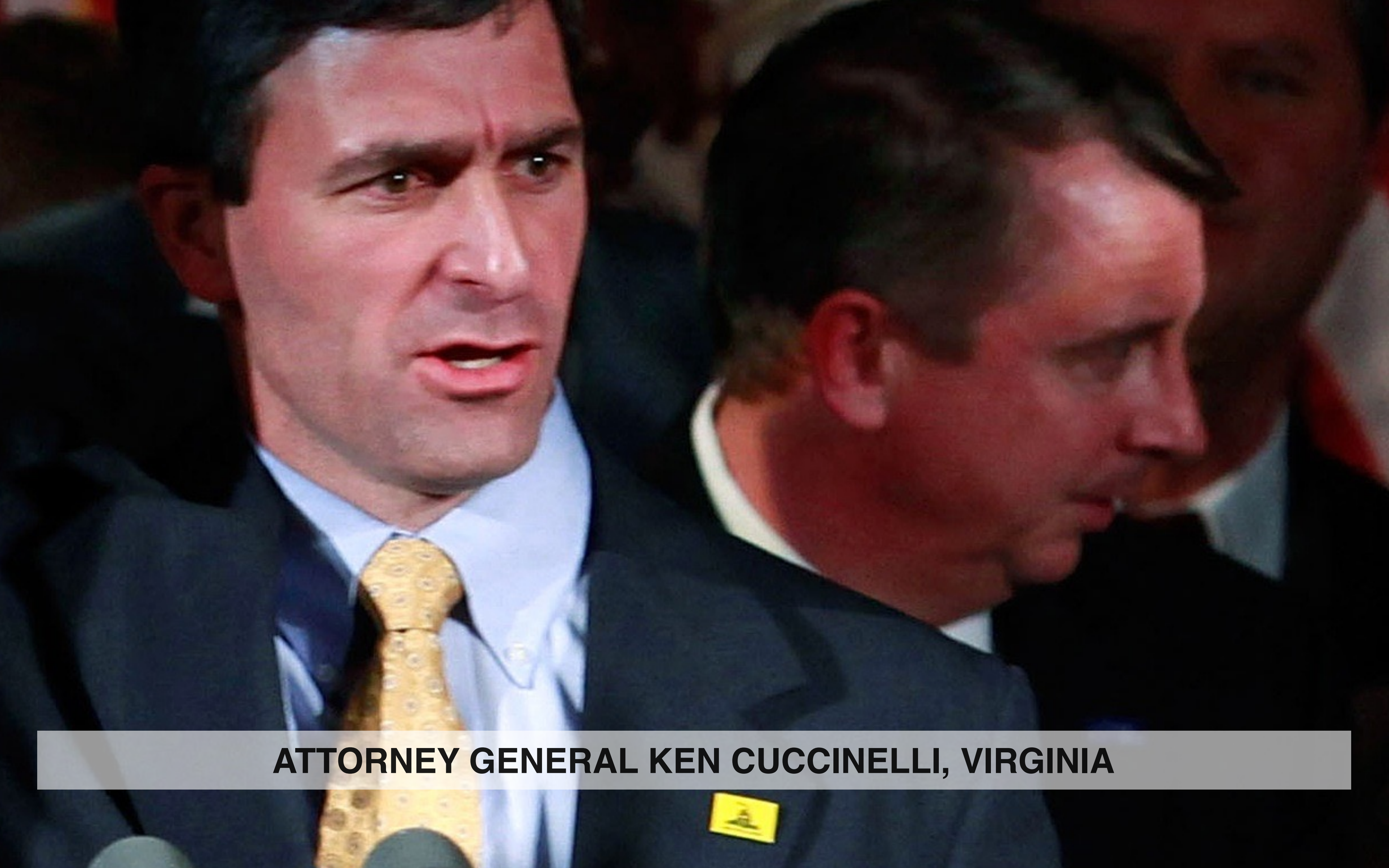
Attorney General Kenneth T. Cuccinelli, II
Office of the Attorney General
900 East Main Street
Richmond, Virginia 23219

Sent via U.S. Mail and Facsimile (804-786-1991)

Dear Attorney General Cuccinelli:

As you can see from our list of Directors and Board of Advisors, FIRE unites civil rights and civil liberties leaders, scholars, journalists, and public intellectuals across the political and ideological spectrum on behalf of liberty, due process, legal equality, voluntary association, freedom of speech, religious liberty, and academic freedom on America's college campuses. Our website, www.thefire.org, will give you a greater sense of our identity and activities.

FIRE is gravely concerned about the threat to academic freedom posed by your decision to issue a Civil Investigative Demand (CID) to the Rector and Visitors of the University of Virginia (UVA) pursuant to your authority under the Virginia Fraud Against Taxpayers Act (FATA). By requesting production of the "data, materials and communications" created by former UVA professor Dr. Michael Mann in conjunction with five research grants he and others obtained during his employment at UVA, among other documents, your office has put academic



ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



May 18, 2010

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800 VA Scientists, Academic Leaders Tell Attorney General Ken Cuccinelli to Stop Harassing Climate Scientist

WASHINGTON (May 18, 2010) — More than 800 scientists and academics in Virginia, including nearly 300 from the University of Virginia (UVA), today sent a [letter](#) (pdf) to Virginia Attorney General Ken Cuccinelli, urging him to drop his investigation of former UVA Professor Michael Mann's scientific research.

"This letter shows that much of Virginia's scientific and academic community is appalled that their attorney general has launched such a blatantly political investigation," said Francesca Grifo, director of the Scientific Integrity Program at the Union of Concerned Scientists (UCS), which facilitated the organizing of the letter.

UVA has until Thursday, May 27, to decide whether it will contest the attorney general's "civil investigative demand," which essentially subpoenaed documents related to state grants Mann received. Cuccinelli, who has said he does not believe climate change is caused by human activity, is investigating Mann under the [Fraud Against Taxpayers Act](#), which makes it illegal to "knowingly" present a "false or fraudulent" claim to the state to obtain compensation.

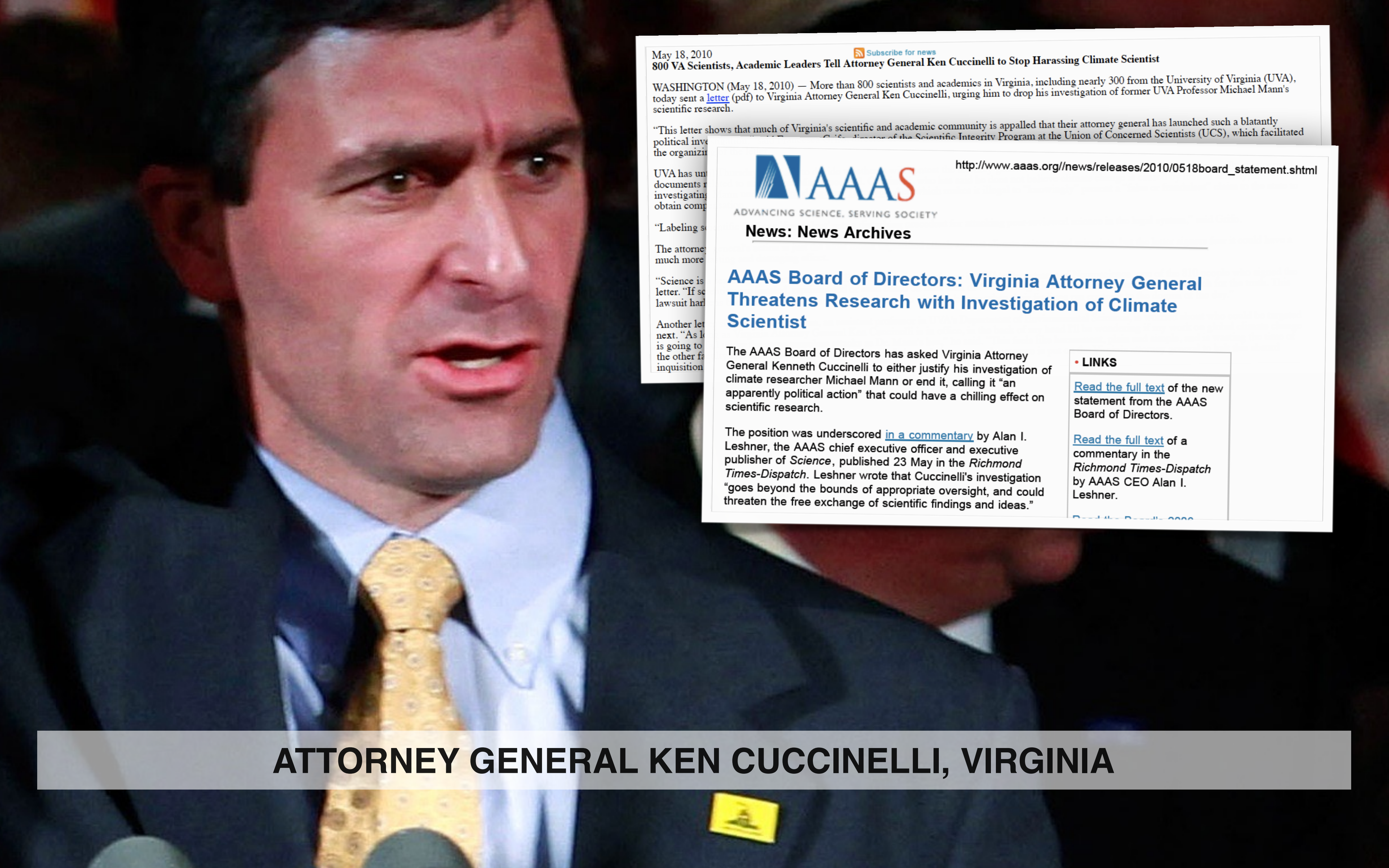
"Labeling scientific findings 'fraudulent' sets a disturbing precedent for attacking peer-reviewed science in the legal system," said Grifo.

The attorney general's action is just the most recent unjustified attack against climate science and scientists, but the letter signers fear it could have a much more lasting and damaging effect.

"Science is a search for the truth," said Jeff Holt, an associate professor in UVA's Department of Neuroscience, one of the 810 people who signed the letter. "If scientists are hassled, reprimanded or sued based on their data or their findings, it will dissuade scientists in their search for the truth. This lawsuit harkens back to the Dark Ages when scientists were tried for heresy when their findings ran contrary to the dogma of the day."

Another letter signatory, Amato Evan, an assistant professor in UVA's Department of Environmental Sciences, is worried about who could be targeted next. "As long as Virginia Attorney General Ken Cuccinelli is in office, in the back of my head I'll be wondering if my work on global climate change is going to fall under the same senseless attacks as Dr. Mann's has," he said. "This feels like harassment, plain and simple, and is wasting the time of the other faculty and staff members in my department. I sincerely hope enough pressure is put on the Virginia attorney general to halt this absurd inquisition."

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"This letter shows that much of Virginia's scientific and academic community is appalled that their attorney general has launched such a blatantly political investigation of a scientist. I am the Chief Director of the Scientific Integrity Program at the Union of Concerned Scientists (UCS), which facilitated the organization of this letter."

UVA has unredacted documents regarding its investigation to obtain complete information.

"Labeling scientists as 'skeptics' is a disingenuous attempt to silence dissent."

The attorney general's actions are much more than a simple investigation.

"Science is being targeted in this letter. If science is being targeted, a lawsuit has been filed."

Another letter is being sent next. "As long as the investigation is going to continue, we will continue to file the other false and misleading information."



ADVANCING SCIENCE. SERVING SOCIETY

http://www.aaas.org/news/releases/2010/0518board_statement.shtml

[News: News Archives](#)

AAAS Board of Directors: Virginia Attorney General Threatens Research with Investigation of Climate Scientist

The AAAS Board of Directors has asked Virginia Attorney General Kenneth Cuccinelli to either justify his investigation of climate researcher Michael Mann or end it, calling it "an apparently political action" that could have a chilling effect on scientific research.

The position was underscored [in a commentary](#) by Alan I. Leshner, the AAAS chief executive officer and executive publisher of *Science*, published 23 May in the *Richmond Times-Dispatch*. Leshner wrote that Cuccinelli's investigation "goes beyond the bounds of appropriate oversight, and could threaten the free exchange of scientific findings and ideas."

• LINKS

[Read the full text](#) of the new statement from the AAAS Board of Directors.

[Read the full text](#) of a commentary in the *Richmond Times-Dispatch* by AAAS CEO Alan I. Leshner.

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UVA has unredacted documents regarding its investigation to obtain complete information.

"Labeling scientists as 'harassing' is a disservice to the scientific community."

The attorney general's actions are much more than a political move.



ADVANCING SCIENCE. SERVING SOCIETY

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http://www.aaas.org/news/releases/2010/0518board_statement.shtml

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AMS and UCAR urge U.Va. to support climate scientist, defend academic freedom

May 14, 2010

The following letter was sent today to the University of Virginia from the American Meteorological Society (an organization of approximately 14,000 members serving the atmospheric and related sciences) and the University Corporation for Atmospheric Research (a nonprofit consortium of North American universities that grant doctoral degrees in the atmospheric and related sciences).

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



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May 18, 2010 [Subscribe for news](#)
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"This letter shows that much of Virginia's scientific and academic community is appalled that their attorney general has launched such a blatantly political investigation of the Scientific Integrity Program at the Union of Concerned Scientists (UCS), which facilitated the organization's efforts to investigate the UVA professor's research."

UVA has unredacted documents related to its investigation and will obtain complete copies of all documents.

"Labeling scientists as 'deniers' is a disingenuous and insulting tactic."

The attorney general's actions are a disgrace and a disservice to the state of Virginia.



http://www.aaas.org/news/releases/2010/0518board_statement.shtml

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AMS and UCAR urge U.Va. to support climate scientist, defend academic

nature

www.nature.com/nature

Vol 465 | Issue no. 7295 | 13 May 2010

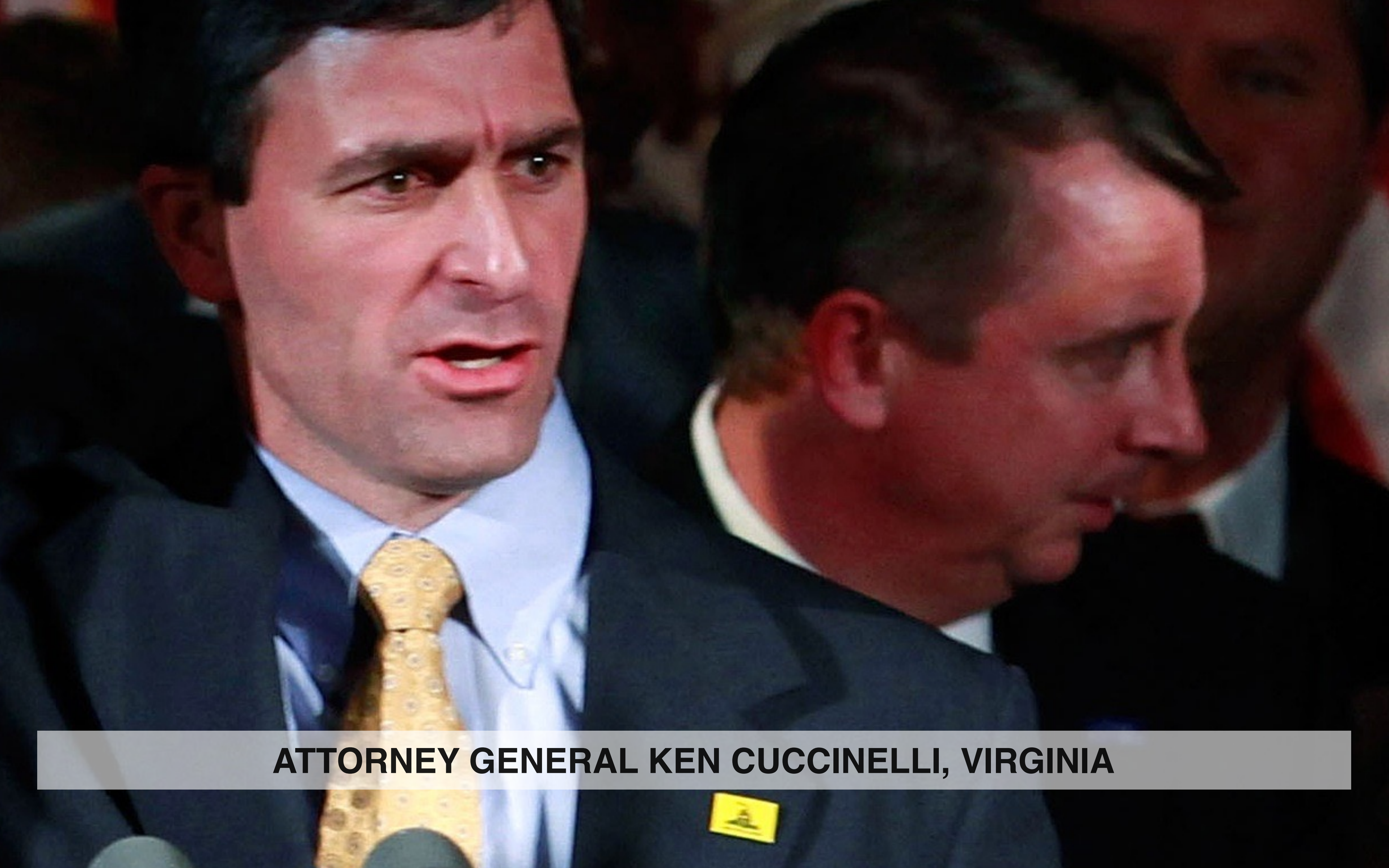
Science subpoenaed

The University of Virginia should fight a witch-hunt by the state's attorney general.


Climate science is under scrutiny once again, this time over a modest half-a-million dollars — the collective sum of five federal and state grants being investigated by Kenneth Cuccinelli, a firebrand conservative who was elected late last year as attorney general of Virginia. The grants had multiple recipients, but the official target of the probe is Michael Mann, an internationally respected climate

scientist who was an investigator on all five grants while working at the University of Virginia in Charlottesville between 1999 and 2005.

On 23 April, Cuccinelli filed what amounts to a subpoena ordering the University of Virginia to hand over, by 26 July, all available documents, computer code and data relating to Mann's research on the five grants. He also demanded all correspondence, including e-mails — from 1999 to the present — between Mann, now at Pennsylvania State University in University Park, and dozens of climate scientists worldwide, as well as some climate sceptics. The order stated that Cuccinelli was investigating Mann's possible violation of the 2002 Virginia Fraud Against Taxpayers Act — although no evidence of wrongdoing was given to explain invoking the law, which is intended



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Hinkle: First They Came for the Climatologists

...

A. BARTON HINKLE TIMES-DISPATCH COLUMNIST
Published: May 11, 2010

Richmond
Times-Dispatch

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA

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THE CHRONICLE of Higher Education

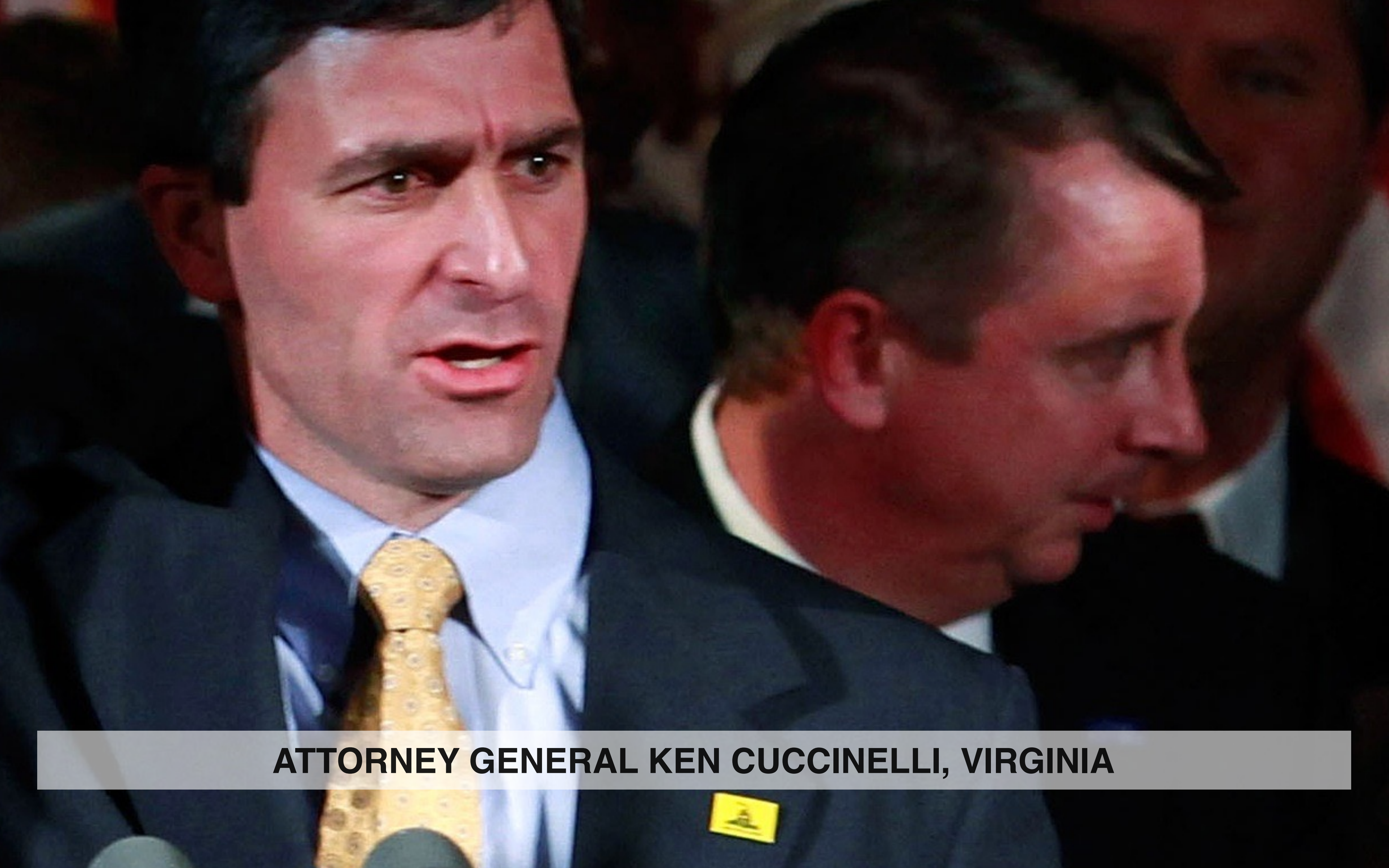
October 7, 2010, 04:00 PM ET

Ken Cuccinelli, Enemy of Freedom

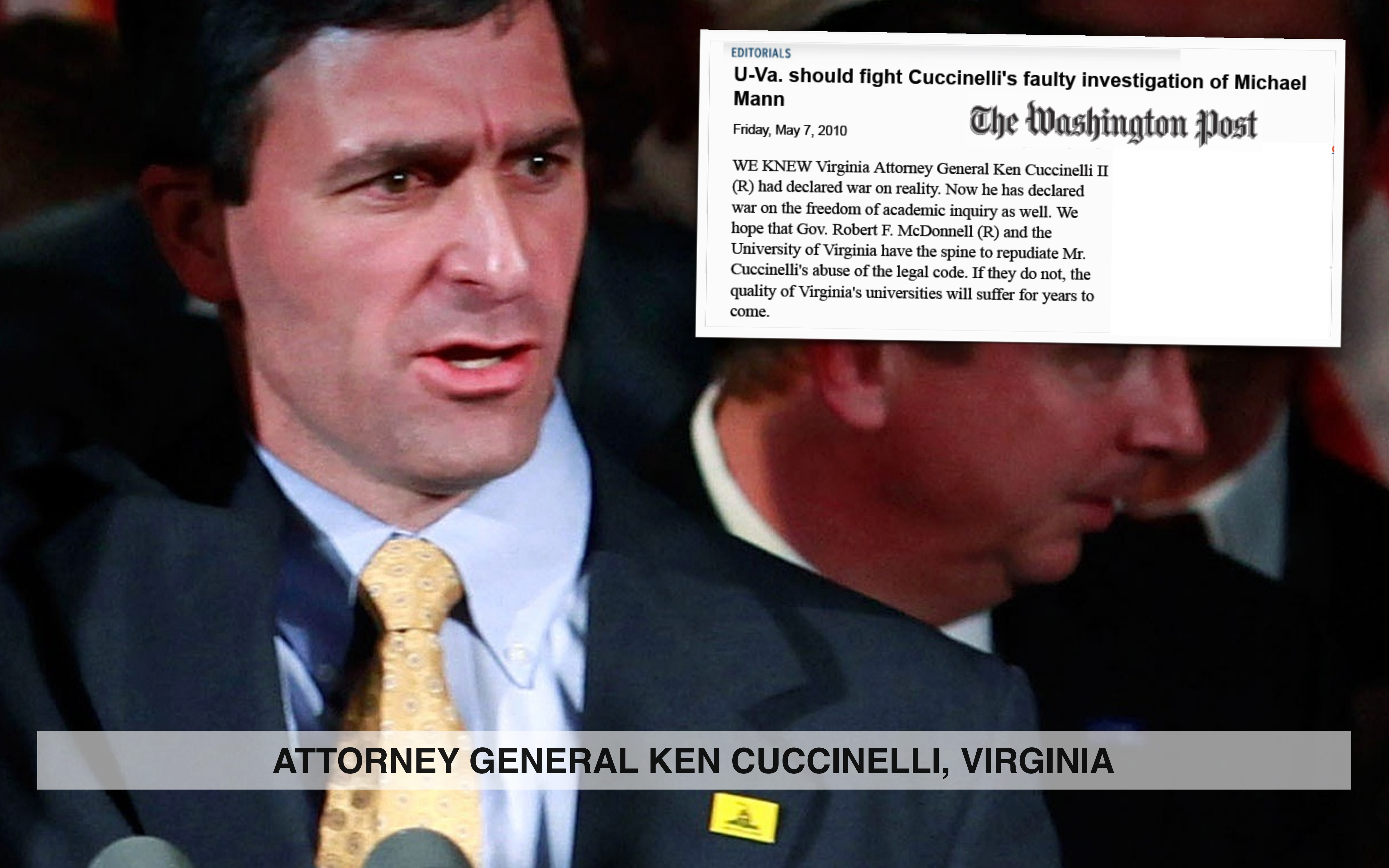
By [Kevin Carey](#)



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EDITORIALS

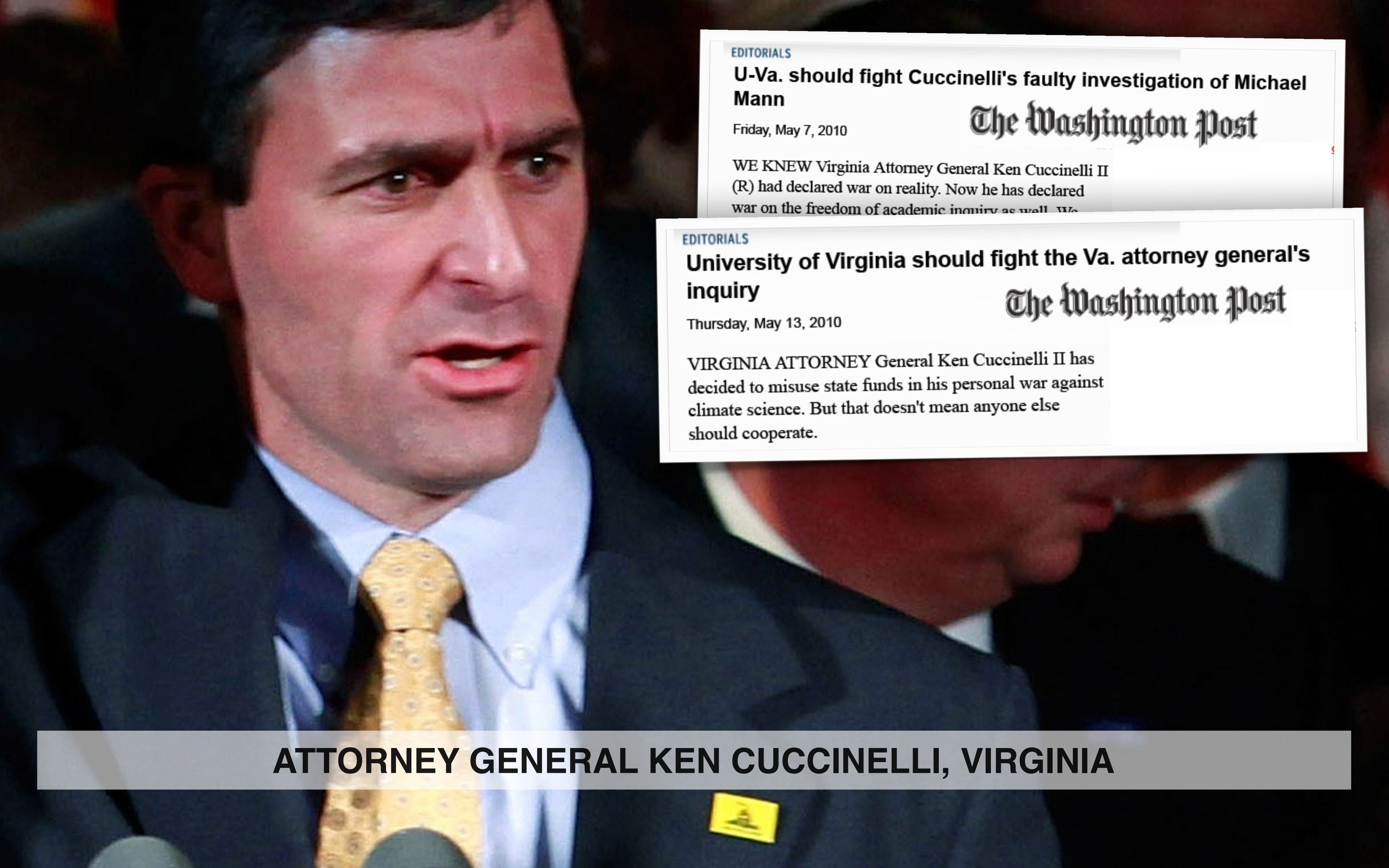
U-Va. should fight Cuccinelli's faulty investigation of Michael Mann

The Washington Post

Friday, May 7, 2010

WE KNEW Virginia Attorney General Ken Cuccinelli II (R) had declared war on reality. Now he has declared war on the freedom of academic inquiry as well. We hope that Gov. Robert F. McDonnell (R) and the University of Virginia have the spine to repudiate Mr. Cuccinelli's abuse of the legal code. If they do not, the quality of Virginia's universities will suffer for years to come.

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



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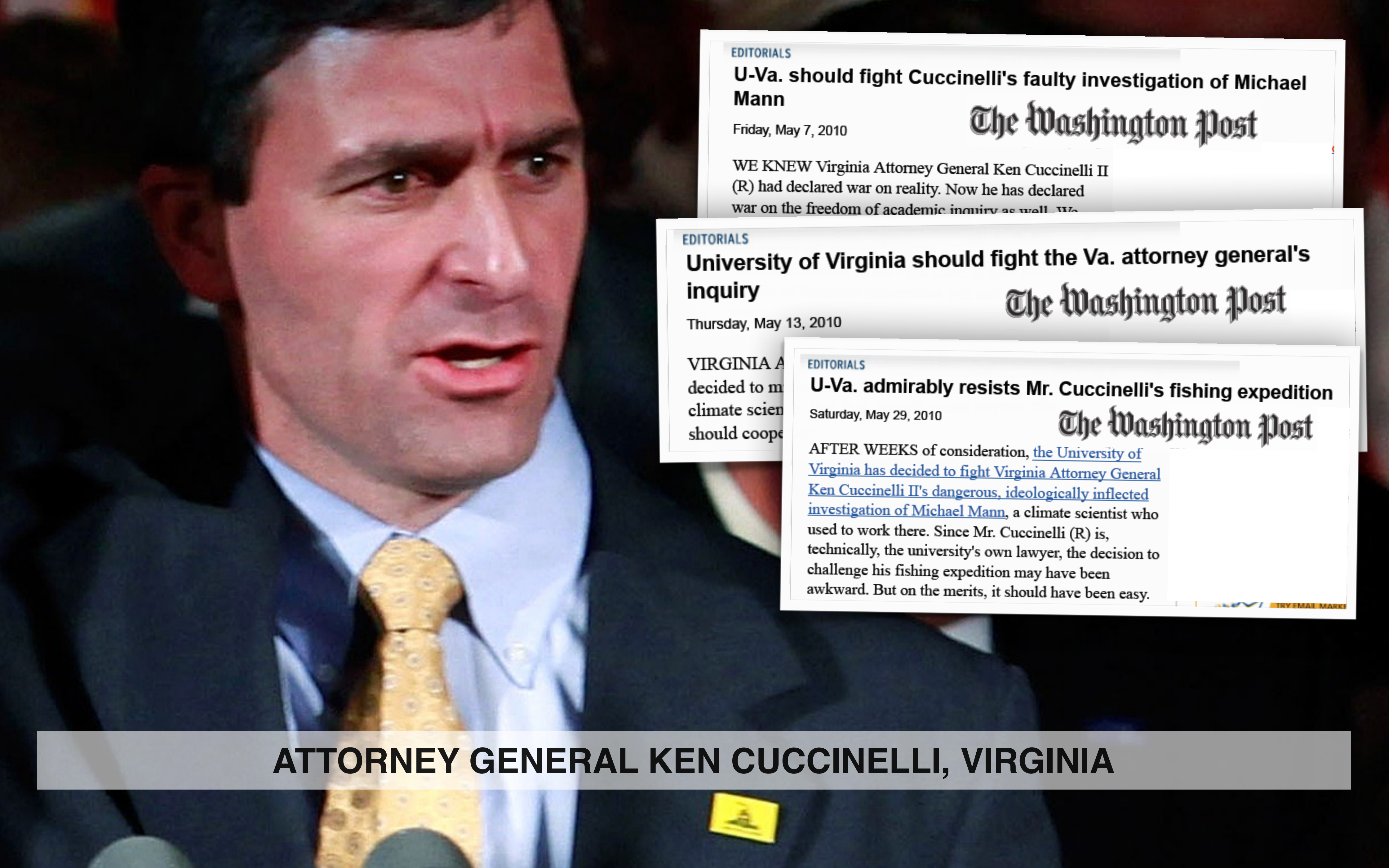
University of Virginia should fight the Va. attorney general's inquiry

Thursday, May 13, 2010

The Washington Post

VIRGINIA ATTORNEY General Ken Cuccinelli II has decided to misuse state funds in his personal war against climate science. But that doesn't mean anyone else should cooperate.

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U-Va. admirably resists Mr. Cuccinelli's fishing expedition

Saturday, May 29, 2010

The Washington Post

AFTER WEEKS of consideration, [the University of Virginia has decided to fight Virginia Attorney General Ken Cuccinelli II's dangerous, ideologically inflected investigation of Michael Mann](#), a climate scientist who used to work there. Since Mr. Cuccinelli (R) is, technically, the university's own lawyer, the decision to challenge his fishing expedition may have been awkward. But on the merits, it should have been easy.

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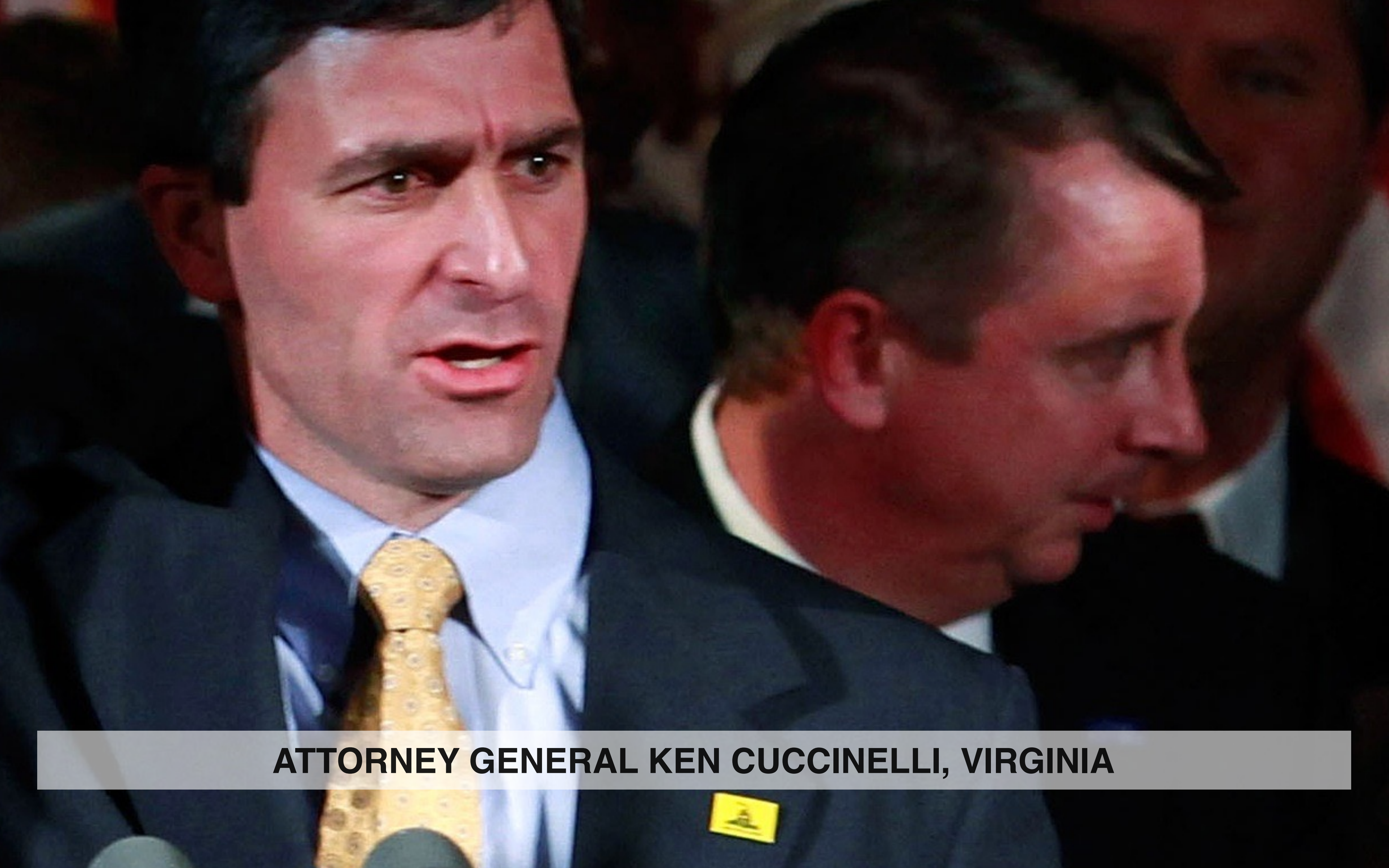
EDITORIALS

A judge puts a damper on Mr. Cuccinelli's U-Va. witch hunt

Tuesday, August 31, 2010

The Washington Post

EARLY THIS YEAR, climate-change skeptics went on the attack, pointing to two molehills of scandal that they claimed were towering peaks of scientific malfeasance. One was "Climategate," in which skeptics used [highly selective excerpts of stolen e-mails](#) in an effort to discredit some well-known scientists. The other was the identification of errors in the last assessment of the Intergovernmental Panel on Climate Change (IPCC) -- the canon of the international consensus on global warming -- particularly a dubious [prediction that Himalayan glaciers](#) would disappear by 2035.



ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA

The Washington Post

Ken Cuccinelli seems determined to embarrass Virginia

Wednesday, October 6, 2010; A18

When Virginia Attorney General Kenneth [Cuccinelli II](#) on Monday revived his [anti-climate science crusade](#) with a new, 30-page civil subpoena demanding boatloads of documents from the University of Virginia, we wondered what he might have discovered recently about the work of former U-Va. researcher Michael E. Mann, the object of the probe, that would justify further investigation. The answer: essentially nothing.

ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



The Washington Post



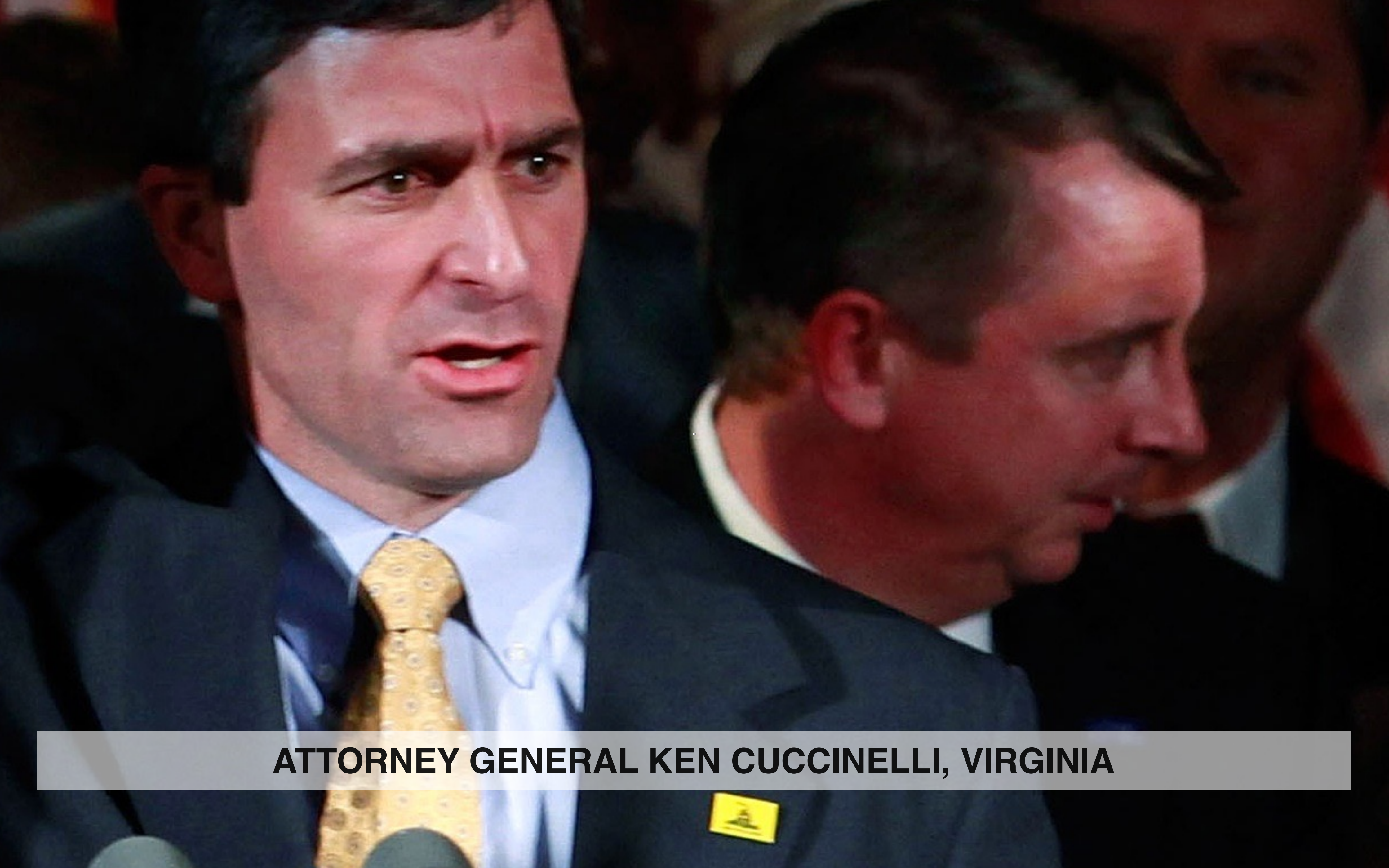
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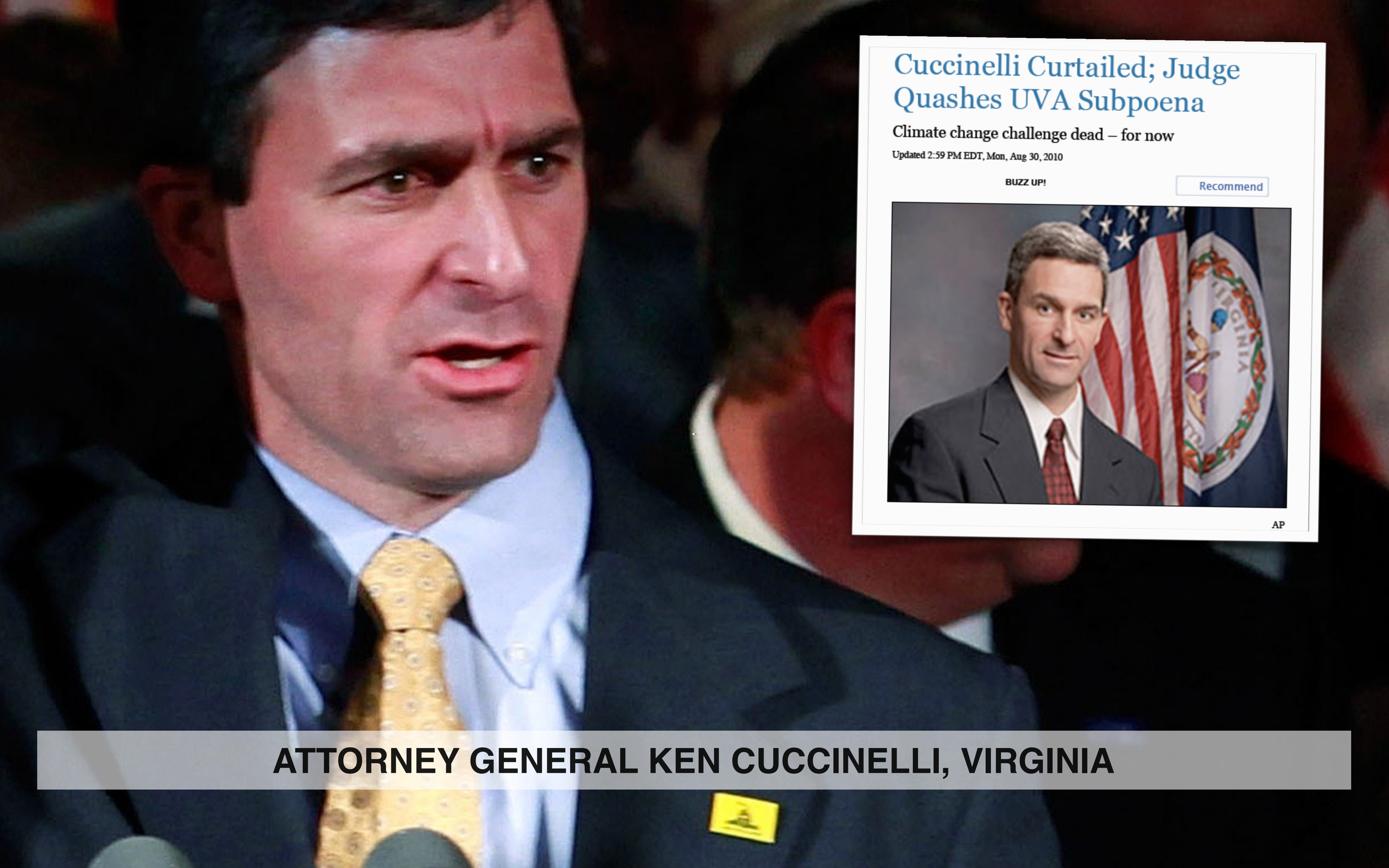
The Washington Post



ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



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Cuccinelli Curtailed; Judge Quashes UVA Subpoena

Climate change challenge dead – for now

Updated 2:59 PM EDT, Mon, Aug 30, 2010

BUZZ UP!

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ATTORNEY GENERAL KEN CUCCINELLI, VIRGINIA



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Judge Blocks Virginia AG's Climate Witch Hunt

— By [Kate Sheppard](#) (/authors/kate-sheppard) | Mon Aug. 30, 2010 11:30 AM PDT



— Photo by [Kenton Ngo](#), via [Facebook](#) (<http://www.flickr.com/photos/kngo/3992515217/>).

Virginia Attorney General Ken Cuccinelli has been waging a war (<http://motherjones.com/politics/2010/02/chamber-commerce-vs-climate-science>) on climate science, among his many (<http://motherjones.com/kevin-drum/2010/03/healthcare-and-supreme-court>) other (<http://motherjones.com/mojo/2010/04/bob-mcdonnells-southern-aggression>) right-wing crusades. Today, his climate mission was dealt a setback (<http://voices.washingtonpost.com/viriniapolitics/2010/08/judge-quashes-cuccinelli-subpo.html>) after a judge denied his attempt to subpoena documents relating to a former University of Virginia climate scientist.



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ATTORNEY GENERAL



Photo by Carol T. Powers for The New York Times

CONGRESSMAN SHERWOOD BOEHLERT, (R) NEW YORK



Photo by Carol T. Powers for The New York Times

The Washington Post

Can the party of Reagan accept the science of climate change?

By Sherwood Boehlert

Friday, November 19, 2010;

Watching the raft of newly elected GOP lawmakers converge on Washington, I couldn't help thinking about an issue I hope our party will better address. I call on my fellow Republicans to open their minds to rethinking what has largely become our party's line: denying that climate change and global warming are occurring and that they are largely due to human activities.

National Journal reported last month that 19 of the 20 serious [GOP Senate challengers declared that the science of climate change is either inconclusive or flat-out wrong](#). Many newly elected Republican House members take that position. It is a stance that defies the findings of our country's National Academy of Sciences, national scientific academies from around the world and 97 percent of the world's climate scientists.

Why do so many Republican senators and representatives think they are right and the world's top scientific academies and scientists are wrong? I would like to be able to chalk it up to lack of information or misinformation.

I can understand arguments over proposed policy approaches to climate change. I served in Congress for 24 years. I know these are legitimate areas for debate. What I find incomprehensible is the dogged determination by some to discredit distinguished scientists and their findings.

CONGRESSMAN SHERWOOD BOEHLERT, (R) NEW YORK

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