

CLIMATE CHANGE ON PLANET EARTH

HISTORY, PHYSICS, SCIENCE FACTS, CONSEQUENCES,
COUNTERMEASURES, AND CONCLUSIONS

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About the Author

Education: Jochem H. Hauser gained his diploma (simulation of particle beams for the GSI accelerator) and Dr.rer.nat in space physics (electric space propulsion) from Giessen University, Germany.

Professional Positions: He worked for ten years in the Institute of Coastal Research, Helmholtz Research Center, Geesthacht on numerical fluid dynamics models for both coastal waters and the atmosphere. After that, he joined the European Space Agency (ESA) for five years as the chief of the Aerothermodynamics Section (reentry simulation) at the European center of Science and Technology, Noordwijk, The Netherlands. He also worked (seconded by ESA) at the NASA Ames Research Center, Moffett Field, CA. In 1993, he became professor (now, em) of High Performance Computing in the Faculty H at Ostfalia University of Applied Sciences, Germany and also was an adjunct professor at the Univ. of Greenwich, London. Since 2012, he is the Scientific Director of the HPCC-Space GmbH, Hamburg, Germany.

Visiting Scientist: He has held guest scientist positions at the mathematics department of the Swiss Federal Institute of Technology (ETH), Zurich, Switzerland in 2000, and at the Dept. of Mech. Eng. of the University of Clausthal, Germany in 2007. He has lectured widely both in the U.S. and in Europe. From 2009-2011 he lectured on the *Physics of Climate Change* for Master of Science students at the Univ. of Luneburg.

Research: His research ranges over the field of fluid dynamics and plasma physics simulation, aerospace science and gravitational physics. Current research topic is on novel space propulsion using extreme gravity-like fields.

Professional Societies: He is a senior member of the American Institute of Aeronautics and a member of the Technical Committee for Future Flight of the American Institute of Aeronautics and Astronautics. Dr. Hauser is also a full member of the Society of Scientific Exploration (SSE), and an affiliate member of the American Astronomical Society. He is the editor/coauthor of 10 books in computational physics and advanced space propulsion and authored about 70 papers (available from Researchgate).

Together with W. Droscher he co-authored the recent book:

Introduction to the Physics, Astrophysics, and Cosmology of Gravity-Like Fields,
25 November 2015, 526 pp., color, available from Amazon.de or Amazon.com

Before we start:

let us hear and see (video in German) the
fundamental remarks from

Prof. N. Bolz, TU Berlin

about

Climate Change

Acronyms in Climate Science

AGW Anthropogenic Global warming

CERN European Organization for Nuclear Research

IPCC Intergovernmental Panel of Climate Change

ENSO El Niño–Southern Oscillation (eastern pacific, warm El Niño, cold La Niña)

ESA European Space Agency

EPA Environmental Protection Agency

GCM Global Circulation Model

HFG Helmholtz Forschungszentrum Geesthacht

MIT Massachusetts Institute of Technology

NASA National Aeronautics and Astronautics Agency

NCAR National Center of Atmospheric Research, Boulder, CO

NOAA National Oceanographic and Atmospheric Agency

NSIDC National Snow & Ice Data Center

PDO Pacific Decadal Oscillations

PIK Politisch Ideologischer Klimawandel, Potsdam

ppm Parts per million, CO₂ = 406

ppb Parts per billion, CH₄ = 1,800

UAH University of Alabama at Huntsville

TSI Total Solar Irradiation (solar energy flux J m⁻² s⁻¹, solar constant 1,367 W m⁻²)

WES Waterways Experiment Station, Vicksburg (sea level gauges)

Fundamental Features of Science

Science is not democratic but elite

Remember: *Deutsche Physik*:

One hundred authors against Einstein, 1938

If you thought that science was certain – well, that is just an error on your part.

It doesn't matter how beautiful your theory is, it doesn't matter how smart you are. If it doesn't agree with experiment, it's **wrong**.

— **Richard P. Feynman, Physics Nobel Prize, Caltech**

the man with the O-ring and the ice water, Space Shuttle Challenger accident 1986

Climate History: NYT in 1974

The New York Times

FORECAST FOR

By ALAN ANDERSON JR. DEC. 29, 1974



December 29, 1974, Page 156
The New York Times Archives

A number of climatologists, whose job it is to keep an eye on long-term weather changes, have lately been predicting deterioration of the benign climate to which we have grown accustomed. They point to signs both great (a steady global cooling trend since World War II) and quaint (the southward retreat from Nebraska of the warmth-loving armadillo) to support their claim that the coming years will feature colder, more erratic weather. Some recent warnings, from reputable researchers in Japan, Europe and the U.S., have so worried policy-makers that last January certain scientists at a meeting of the National Academy of Sciences proposed the evacuation of some six million people from their parched homelands in the Sahel region of Africa.

Simplified Earth Irradiation Energy balance

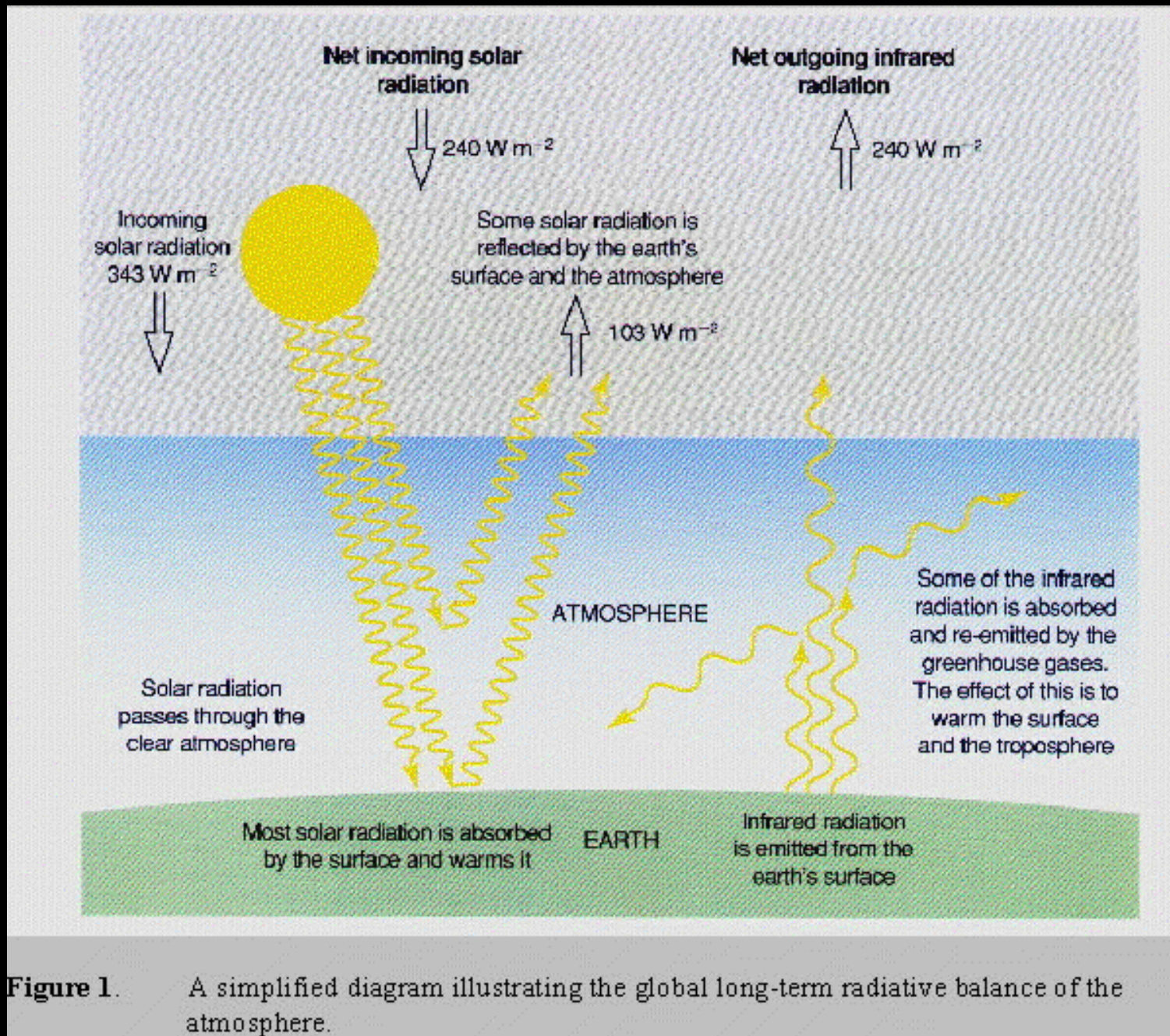
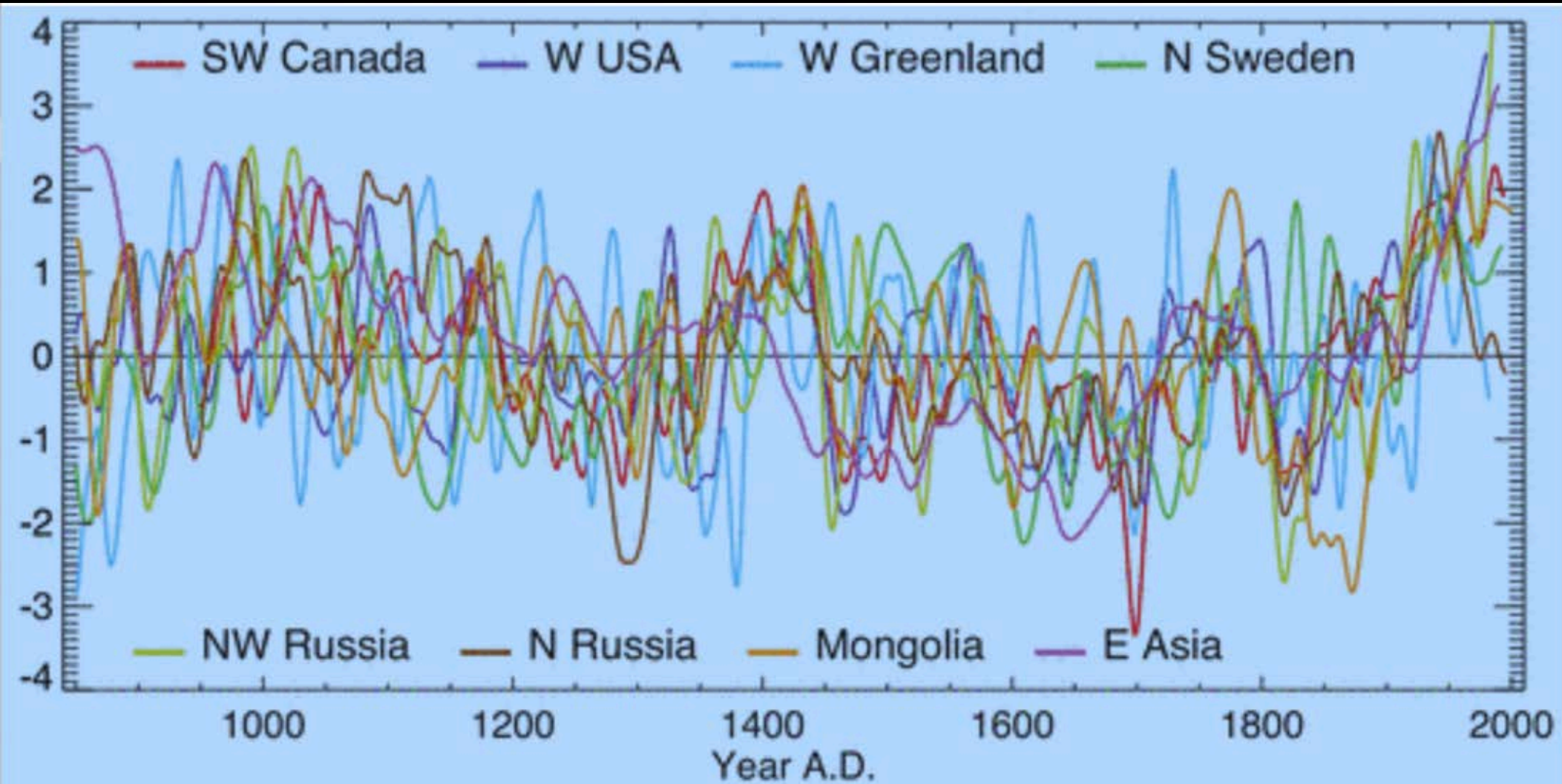


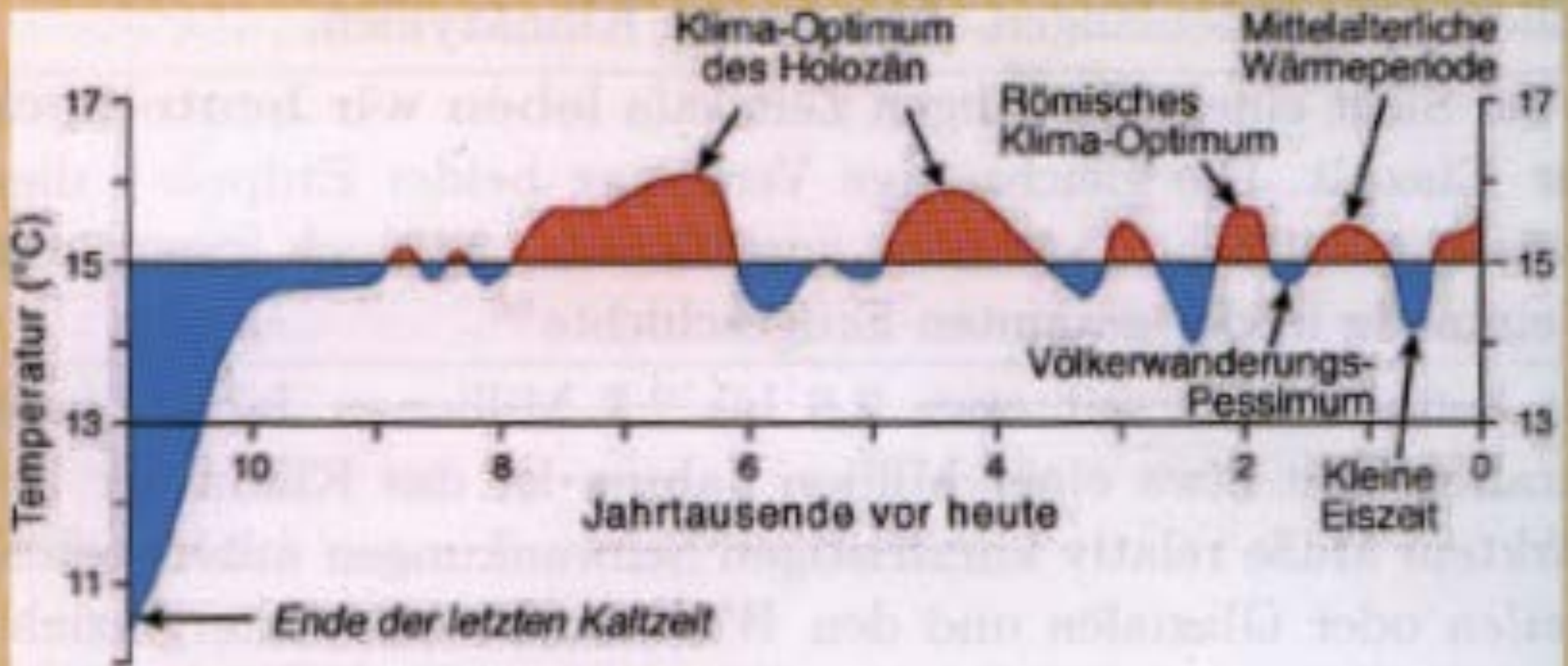
Figure 1. A simplified diagram illustrating the global long-term radiative balance of the atmosphere.

Climate History



What is the real climate? Variations in temperature reconstruction, source IPCC report 2007

Temperature History 10,000 Years (ref. 6)



Bodennahe nordhemisphärische Mitteltemperaturen der letzten 11.000 Jahre
(verändert nach Dansgaard et al., 1969, und Schönwiese, 1995)

Climate History

English translation (2009) of a report from a Norwegian arctic expedition

Die Arktis scheint sich zu erwärmen. Berichte von Fischern, Robbenjägern und Forschern welche das Meer um Spitzbergen und den östlichen Teil der Arktis befahren, zeigen alle auf eine radikale Änderung der klimatischen Bedingungen und bis dato gänzlich unbekannt hohen Temperaturen in diesem Teil der Welt. Viele Landschaften haben sich so verändert, sie sind nicht mehr erkennbar. Wo sich vorher grosse Eismassen befanden, sind jetzt oft Moränen, Ansammlungen von Erde und Steinen. An vielen Orten wo früher Gletscher weit ins Meer ragten, sind sie komplett verschwunden. Die Temperaturveränderung, sagt Kapitän Ingebrigtsen, hat auch die Flora und Fauna in der Arktis verändert. Diesen Sommer suchte er nach Weissfisch in den Gewässern um Spitzbergen. Früher gab es grosse Schwärme davon. Dieses Jahr sah er keine, obwohl er alle seine alten Fischgründe absuchte. Es gab wenige Robben in den Gewässern um Spitzbergen dieses Jahr und der Fang war weit unter dem Durchschnitt. Das hat aber den Kapitän nicht überrascht. Er wies daraufhin, daß das Wasser um Spitzbergen normalerweise eine gleichbleibende Temperatur im Sommer von 3°C hat. Dieses Jahr wurden Temperaturen von bis zu 15°C gemessen und letzten Winter ist das Meer nicht mal an der Nordküste von Spitzbergen zugefroren. **Terrible - if it weren't from 1927**

Current Climate Situation

too many polar bears compared to 1950 (5,000) : 26,000 in 2016



Polar bears an endangered species? Listen to the video of ...

Prof. J. Reichholf, Munich: Biodiversity video



Doomsday Predictions are not Science

Al Gore: In his 2006 documentary, "*An Inconvenient Truth*," he famously predicted increasing temperatures would cause earth's oceans to rise by 7 m, a claim scientists say is *utterly without rational basis*. His latest movie *An Inconvenient Sequel* is pure propaganda, fabricated by Hollywood (or Bollywood), that has NO resemblance to current climate observations. A self-named prophet predicts the end of the world.

Sierra Club Canada also said in 2013 that the *Arctic sea ice would vanish* that year. *There is still a total of more than > 12 sqkm covered with ice.*

One leading expert, in 2013, Peter Wadhams, a professor of ocean physics at the University of Cambridge, says the Arctic Ocean *could* be *completely free of ice in summer as soon as 2015*. An overheated Arctic in turn threatens catastrophic knock-on effects for the rest of the globe. *The ocean decided otherwise. Astrology seems to be a far more serious science!*

Faster sea level rise.... and more climate refugees. The warmer Arctic has dramatically accelerated the melting of the Greenland ice sheet. "We are now losing 300 cubic kilometer of ice a year in Greenland," said Wadhams. "That in itself will double the rate of sea level rise globally — *but this has not been observed. Is it the eskimos who are now asking for asylum!?*

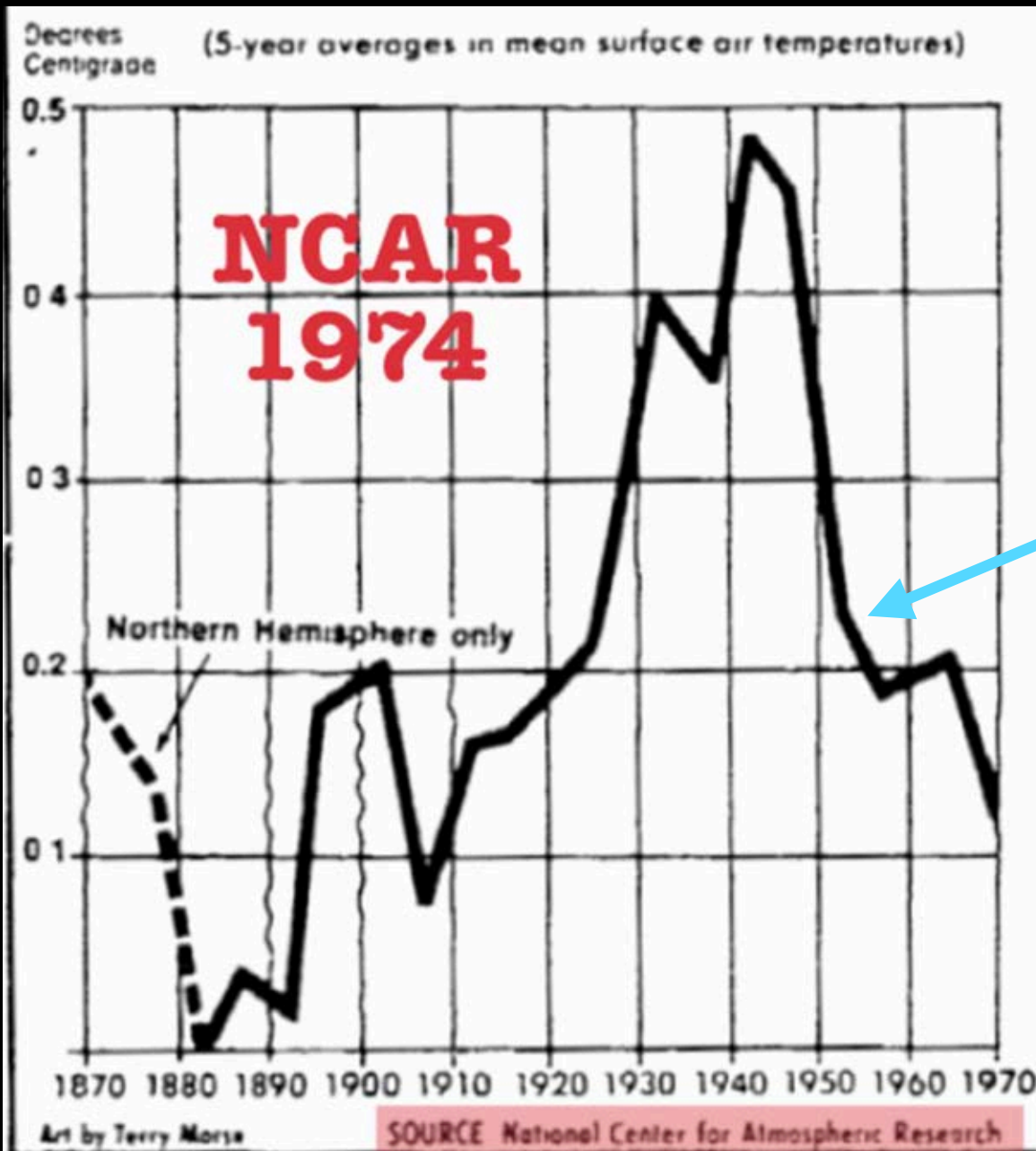
Higher risk of "runaway" global warming. The warmer Arctic has begun unleashing substances—specifically, permafrost and underwater methane—that *could* sharply accelerate global warming- methane is 23 times more effective than CO₂. *Nothing is running — global temperature remains practically stagnant since more than 18 years — despite 550 billion tons of CO₂ !!!.*

Read more at <http://www.wnd.com/2017/01/report-on-arctic-sea-ice-unleashes-shock-waves/#Yr3iXi6xZ4WlxFF4.99>

Numerous reports on climate change are without logic:

“ I think the findings that the heat is going into the Atlantic and Southern Ocean’s is **probably pretty robust**. However, I will defer to people like Josh Willis who know the data better than I do.”-says Andrew Dessler. Debunked by Josh Willis, who Dessler **“knows the data better than I do,”** says in the very same NYT article that **“it is not clear to me, actually, that an accelerated warming of some...layer of the ocean ... is robustly supported by the data itself”** – Josh Willis

Global temperature variation from 1870-1970

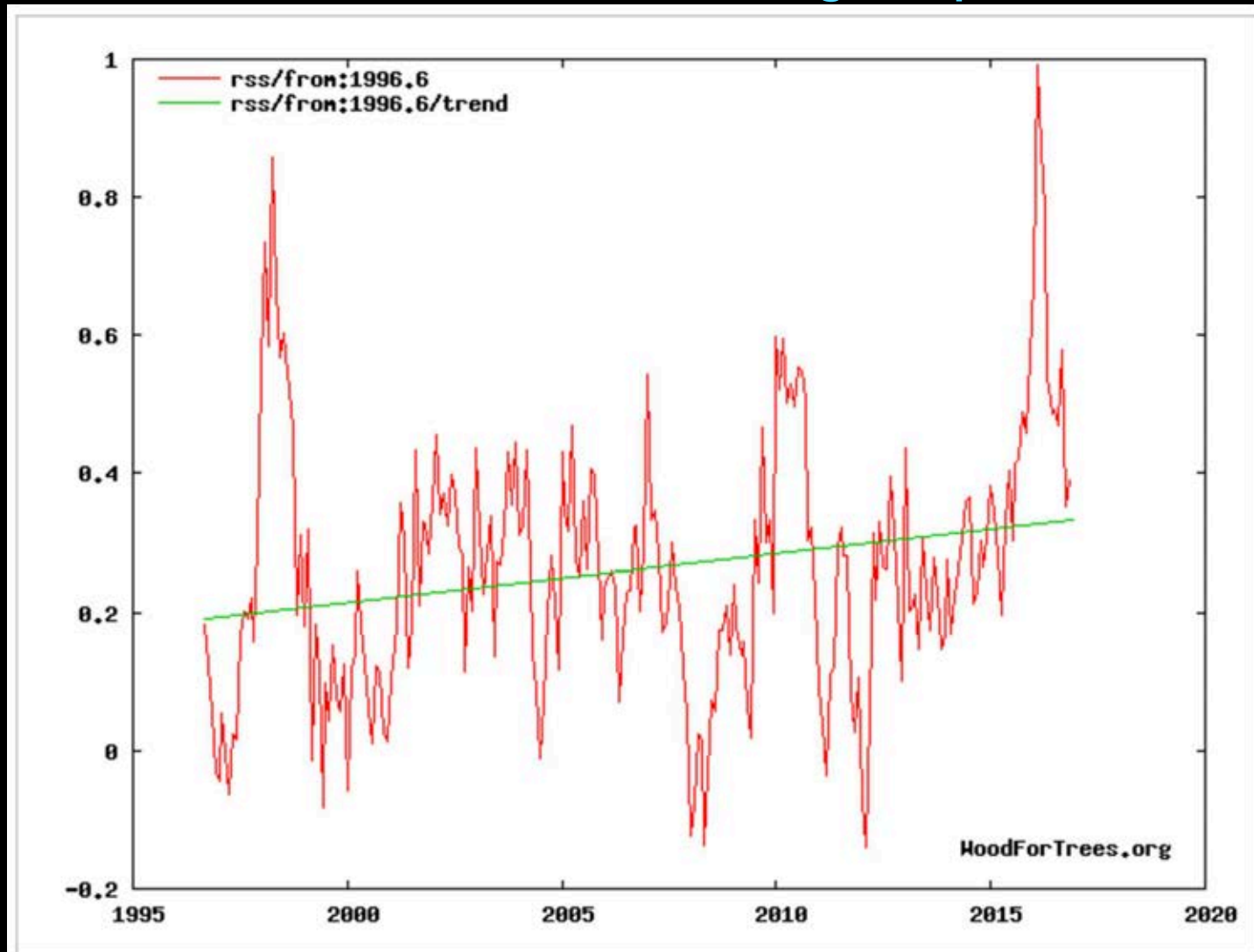


Eventually, in 1975 a consensus was achieved, and a new ice age was predicted by almost *all* scientists

In the 2000s NASA removed this plot from their website

<http://realclimatescience.com/nasa-hiding-the-decline-in-sea-level-and-temperature/>

Temperature increase from 1997- 2016 about 0.1 C
about 550 billion tons of CO₂ were released during this period! (Dr. R. Spencer)



RSS satellite data showing the 18 year 'pause' of global warming

Climategate, Politics, and Political Correctness in Science

Climategate E-mails (from November 2009):

- *hiding the decline*
- *prevent publication of papers that are considered skeptical*
- *introducing fudge factors into climate models*
- *temperature hockey stick curve: falsification by "Prof." M. Mann, Pennsylvania*
- *countless modifications of recorded temperature surface data by NOAA and NASA*
- *disappearance of original measured data from NOAA and NASA websites*
- *pressure on PhD students (Politisch Ideologischer Klimawandel)*
- *IPCC report 2007: falsification of Himalaya glacier meltdown by 2037, confirmed in German TV by Prof. Schellenhuber, PIK and IPCC President Raychaudhari*
- *we must get rid of H. von Storch Mist-Wissenschaft*
- *constructing plots how to run scientific journals*

Prof. Phil Jones to Michael Mann: I can't see either of these papers being in the next IPCC report, Kevin and I will keep them out somehow.

Example for irrational behavior:

Appeals to religion and the afterlife have been showered on us. Whether it be comments from the pope, or from Nobel Prize winning 'economist' Paul Krugman, who says:

You can deny global warming and *may you be punished in the afterlife for doing so* – this kind of denial for petty personal or political reasons is an almost inconceivable sin.

PEOPLE
POLITICIANS
MONEY

Prof. S. Rahmsdorf, PIK, in
Klimawandel und CO₂, 2004:

Wir danken Eduardo Zorita,
Helmholtz Zentrum
Gesstacht, für die
Erläuterung der falschen
Darstellung seiner
Ergebnisse!

I am not sure that S.
Rahmsdorf would have
thanked Dr. E. Zorita if
he had known of the
2009 public letter!

Why I think that *Michael Mann, Phil Jones and Stefan Rahmstorf* should be barred from the
IPCC process

Eduardo Zorita, November 2009

Short answer: *because the scientific assessments in which they may take part are not credible anymore.*

A longer answer: My voice is not very important. I belong to the climate-research infantry, publishing a few papers per year, reviewing a few manuscript per year and participating in a few research projects. I do not form part of important committees, nor do I pursue a public awareness of my activities. My very minor task in the public arena was to participate as a contributing author in the Fourth Assessment Report of the IPCC.

By writing these lines I will just probably achieve that a few of my future studies will, again, not see the light of publication. My area of research happens to be the *climate of the past millennia*, where I think I am appreciated by other climate-research 'soldiers'. And it happens that some of my mail exchange with Keith Briffa and Timothy Osborn can be found in the CRU-files made public recently on the internet.

To the question of legality or ethicalness of reading those files I will write a couple of words later.

I may confirm what has been written in other places: research in some areas of climate science has been and is full of machination, conspiracies, and collusion, as any reader can interpret from the CRU-files. They depict a realistic, I would say even harmless, picture of what the real research in the area of the climate of the past millennium has been in the last years. **The scientific debate has been in many instances hijacked to advance other agendas.**

These words do not mean that I think anthropogenic climate change is a hoax. On the contrary, it is a question which we have to be very well aware of. But I am also aware that in this thick atmosphere -and I am not speaking of greenhouse gases now- editors, reviewers and authors of alternative studies, analysis, interpretations, even based on the same data we have at our disposal, have **been bullied and subtly blackmailed**. In this atmosphere, **PhD students are often tempted to tweak their data so as to fit the 'politically correct picture'**. *Some, or many issues, about climate change are still not well known*. Policy makers should be aware of the attempts **to hide these uncertainties** under a unified picture. I had the 'pleasure' to experience all this in my area of research.

I thank explicitly Keith Briffa and Tim Osborn for their work in the formulation of one Chapter of the IPCC report. As can be distilled from these e-mails, **they withstood the evident pressure of other IPCC authors**, not experts in this area of research, to convey a distorted picture of our knowledge of the hockey-stick graph.

Is legal or ethical to read the CRU files? I am not a lawyer. It seems that if the files had been hacked this would constitute an illegal act. If they have been leaked it could be a whistle blower action protected by law. I think it is not unethical to read them. Once published, I feel myself entitled to read how some researchers tried to *influence reviewers to scupper the publication of our work on the 'hockey stick graph'* or to read how some IPCC authors tried to *exclude this work from the IPCC*.

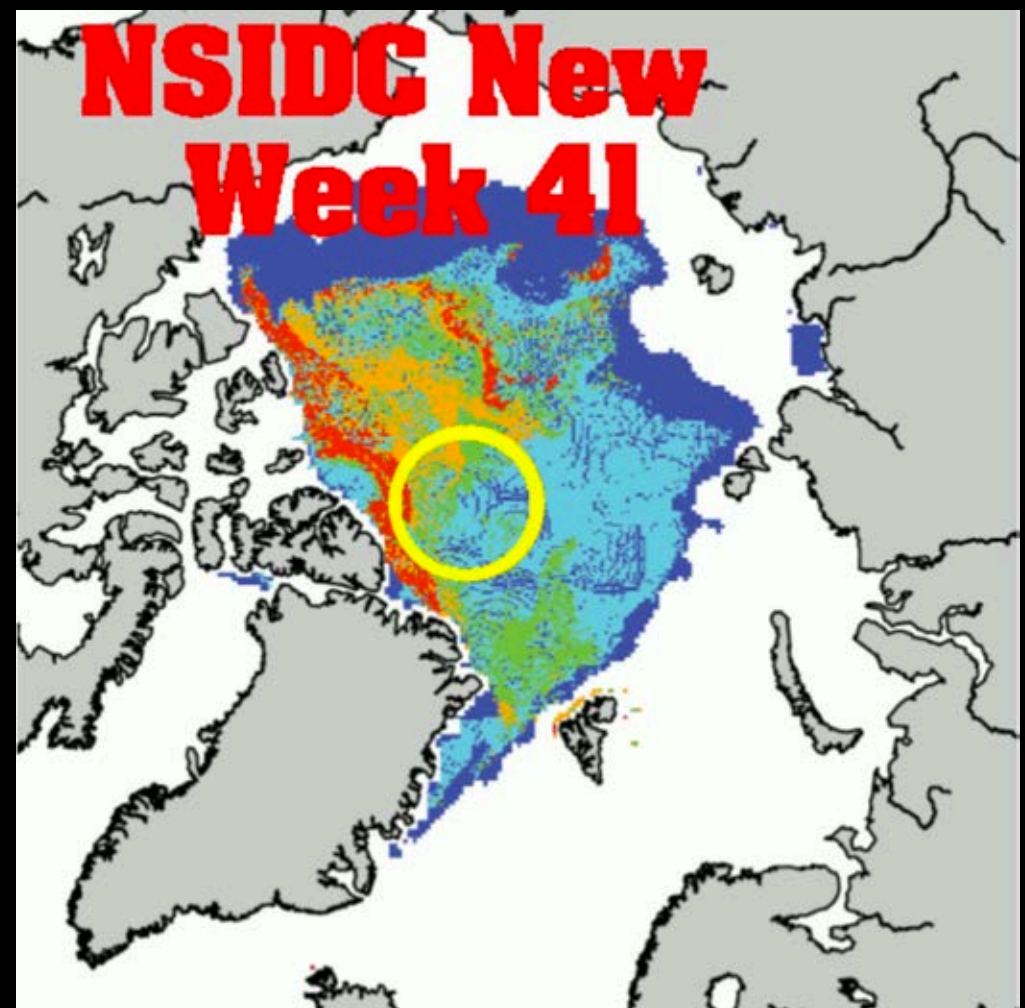
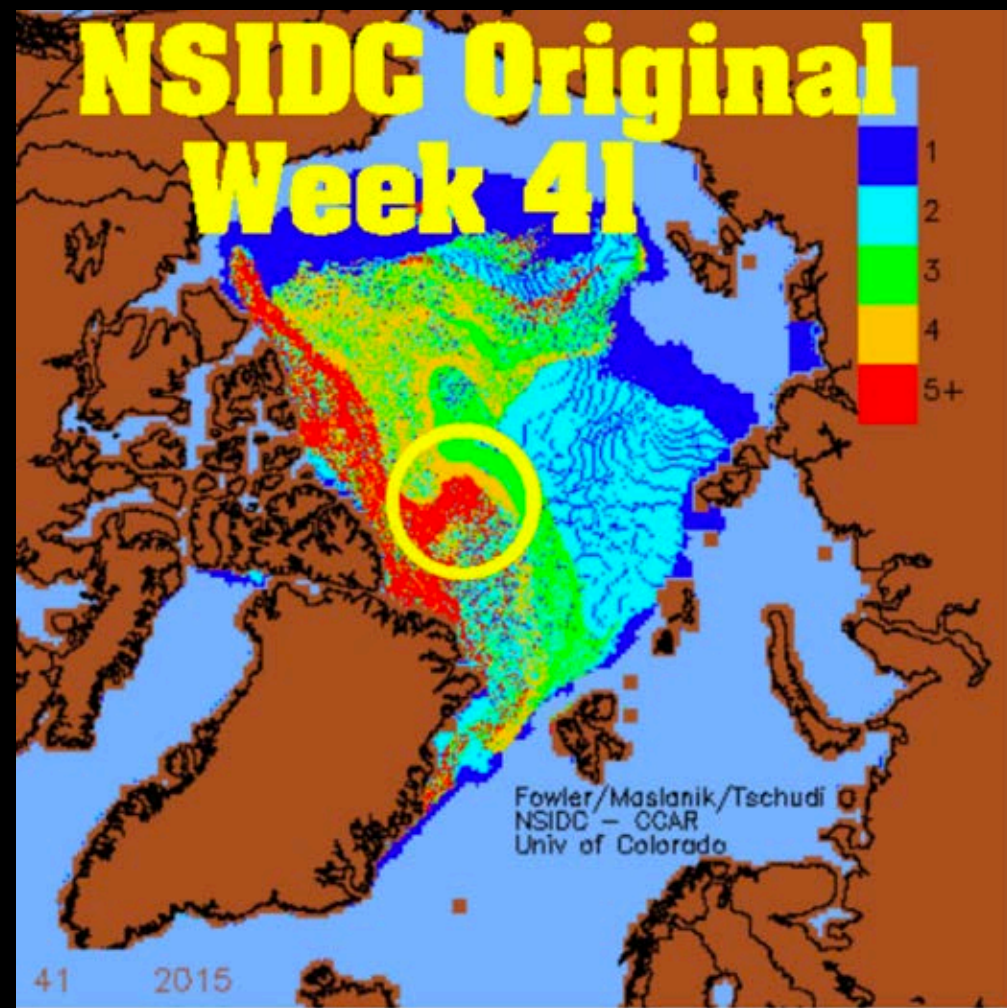
Climategate on NSIDC Website: arctic ice week 41, 2015

left picture replaced by right picture, that is, all arctic ice pictures were tampered showing thinned ice

Arctic ice 5m thick

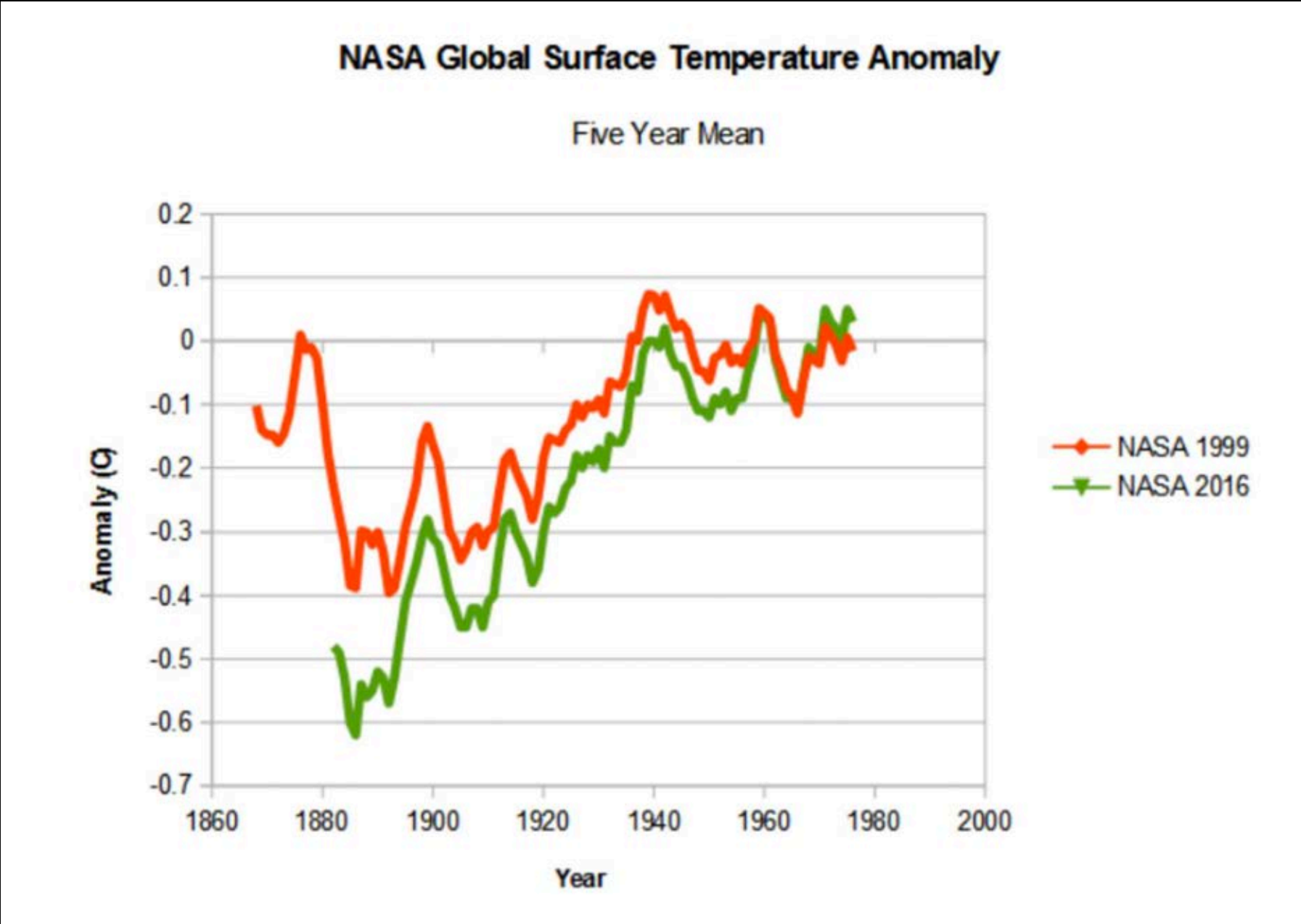
Arctic Ice 5m disappeared

all of the original ice sheet data from 1984 to week 36 of 2015 was deleted from their website without notification



NASA MODIFIED MEASURED TEMPERATURES

The original measured data were deleted from the NASA website



NASA ORIGINAL TEMPERATURE DATA DISAPPEARED

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	J-D	D-N	DJF	MAM	JJA	SON	Year
1941	10	24	-4	7	10	16	37	8	-19	11	-1	11	9	11	21	4	20	-3	1941
1942	27	1	1	2	7	7	9	5	3	0	14	9	7	7	13	3	7	5	1942
1943	-20	8	-15	4	-5	-12	13	-25	-2	29	9	23	1	-1	-1	-5	-8	12	1943
1944	35	12	7	-4	-5	-10	7	8	18	23	3	-13	7	10	23	-1	2	15	1944
1945	5	-11	0	22	-21	-24	-14	27	5	5	-3	-28	-3	-2	-6	0	-4	2	1945
1946	7	3	-10	12	10	-11	12	-7	3	-14	-3	-22	-2	-2	-6	4	-2	-5	1946
1947	-2	11	24	18	7	2	12	8	4	27	27	-7	11	10	-4	16	7	19	1947
1948	25	-10	-22	-8	7	12	-9	-18	-8	-1	-16	-14	-5	-4	3	-8	-5	-8	1948
1949	7	-29	-10	-26	-11	-17	-2	-13	-6	3	-8	-9	-10	-11	-12	-16	-11	-4	1949
1950	-24	-27	-3	-16	-19	-7	-5	-28	-12	-13	-32	-12	-17	-16	-20	-13	-13	-19	1950
1951	-37	-44	-13	-2	10	-7	-5	15	3	12	9	21	-3	-6	-31	-2	1	8	1951
1952	15	16	-9	-1	-7	-2	12	15	16	2	-15	1	4	5	17	-6	8	1	1952
1953	15	12	21	21	8	9	3	17	13	10	7	23	13	11	9	16	10	10	1953
1954	-23	-1	-4	-10	-14	-15	-21	-17	-17	5	24	-7	-8	-6	-1	-9	-18	4	1954
1955	26	-6	-33	-13	-12	-14	-8	3	-10	5	-20	-24	-9	-8	4	-19	-7	-8	1955
1956	-15	-26	-25	-20	-23	-5	-6	-31	-6	-19	-17	-14	-17	-18	-22	-22	-14	-14	1956
1957	-11	0	0	15	10	18	-7	15	14	0	17	22	8	5	-8	8	9	11	1957
1958	42	24	19	13	8	-17	12	-9	-8	10	10	-6	8	11	29	14	-5	4	1958
1959	4	6	24	14	-1	9	9	0	-15	-5	-8	9	4	3	1	12	6	-9	1959
1960	4	24	-45	-23	-14	-6	-11	10	5	12	-9	19	-3	-4	13	-27	-2	3	1960

Political Correctness in Science

Resignation: Prof. Dr. Judith Curry explained, "the deeper reasons have to do with my growing disenchantment with universities, the academic field of climate science and scientists... I no longer know what to say to students and postdocs regarding how to navigate the CRAZINESS in the field of climate science. Research and other professional activities are professionally rewarded only if they are channeled in certain directions approved by a politicized academic establishment — funding, ease of getting your papers published, getting hired in prestigious positions, appointments to prestigious committees and boards, professional recognition, etc."

"How young scientists are to navigate all this is beyond me, and it often becomes a battle of **scientific integrity versus career suicide**."

Politicians, Politics, and Climate

Climate change is already disrupting our agriculture and ecosystems, our water and food supplies," Obama recently inveighed. "If we do nothing, Alaskan temperatures are projected to rise between *six and twelve degrees* by the end of the century."

So naturally, President Obama, and also Pope Francis, the notorious European Commission, the radical United Nations, and many poor countries are obsessed with – climate change!, that is, these nations have found a bonanza, foremost the German taxpayer.

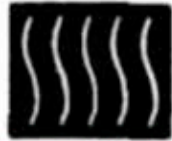
Following Obama's recent GLACIER conference in Anchorage, China, India, and Russia (three of the four biggest CO₂ - emitting nations) refused to sign a nonbinding declaration seeking greater international action to combat Arctic melting and climate change.

John Kerry stated, we must act quickly "to avoid the catastrophe we will inevitably see if we allow carbon emissions to go up, and up, and up." Moreover, he added, "We need to speed it up dramatically because we are in a race against time." ... "What we do right now, today, matters," Kerry told the audience. "We don't get a second chance on this one."

Politicians, Politics, and Climate

The Canberra Times (ACT : 1926 - 1995) (about) ◀ Sunday 1 April 1990 ▶

Global Warming



A report issued by the U.S. space agency NASA concluded that there has been no sign that the greenhouse effect increased global temperatures during the 1980s. Based on satellite analysis of the atmosphere between 1,500 and 6,000 metres above sea level, the report said that the study found "a seemingly random pattern of change from year to year." While several government and university meteorologists around the world have concluded that average surface temperatures have increased significantly in recent years, the report's authors said that their satellite analysis of the upper atmosphere is more accurate, and should be adopted as the standard way to monitor global temperature change.

Prof. L. Bengtson, former MPI director, HH, 2013, in the blog

Klimazwiebel of
Prof. H. von Storch:

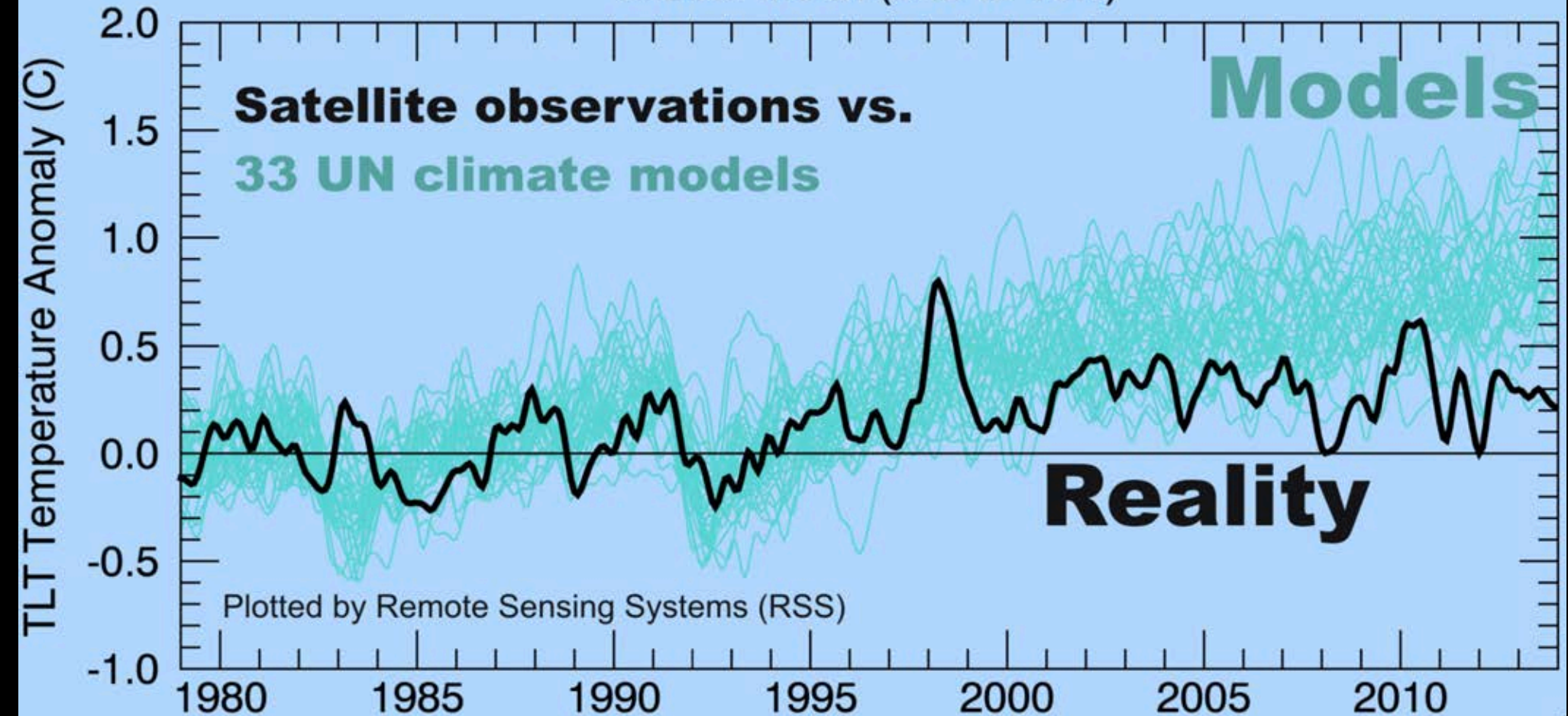
For some parts of the industry as well as for different NGOs such as Greenpeace and WWF a threatening climate warming have become a necessity and a source of extra income as it provides continued subventions for wind and solar energy. In the almost hysterical climate hype of today a less dramatic warming is not very well received as all political correct members of the public would prefer to hide this uncomfortable fact.

PHYSICS

Climate Models and Experimental Data

Temperature pause continues

Global Mean (80S to 80N)



Computer models are incapable of *exact quantitative* predictions, hence only experimental data should be utilized, but computer models can be used for parameter studies that show the impact of the individual sources.

Climate Models and H. von Storch

no increase in global temperature observed as of January 2017

The Challenge

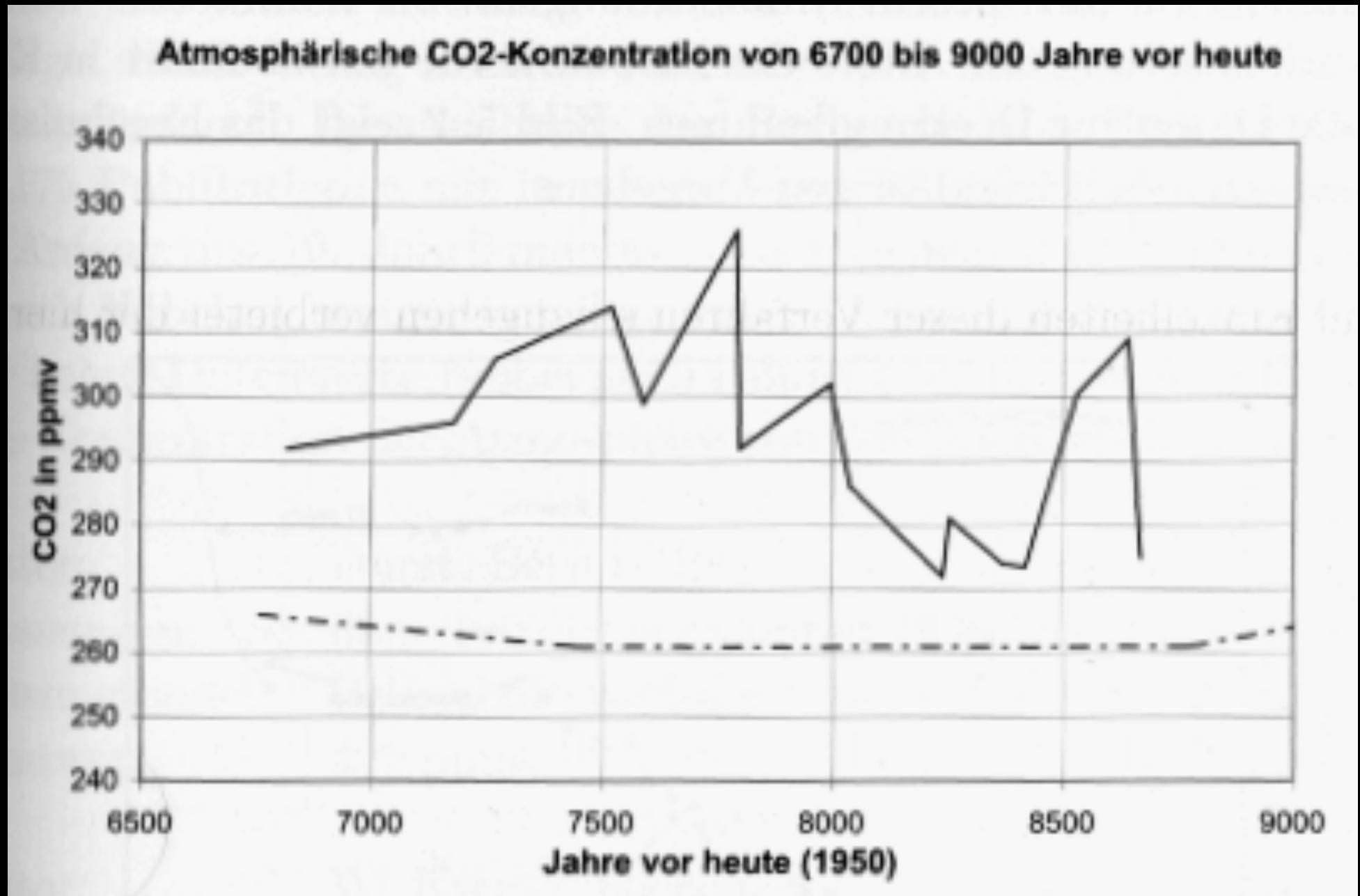
- If things continue as they have been, in five years, at the latest, we will need to acknowledge that something is fundamentally wrong with our climate models. A 20-year pause in global warming does not occur in a single modeled scenario.



**Prof. Hans von Storch, 2013,
Inst. of Coastal Science,
HFG Geesthacht and
MPI Hamburg, Germany**

Errors in CO₂ Icecore Concentrations

the upper curve shows the correct CO₂ concentration from plant pollen (ref. 6)

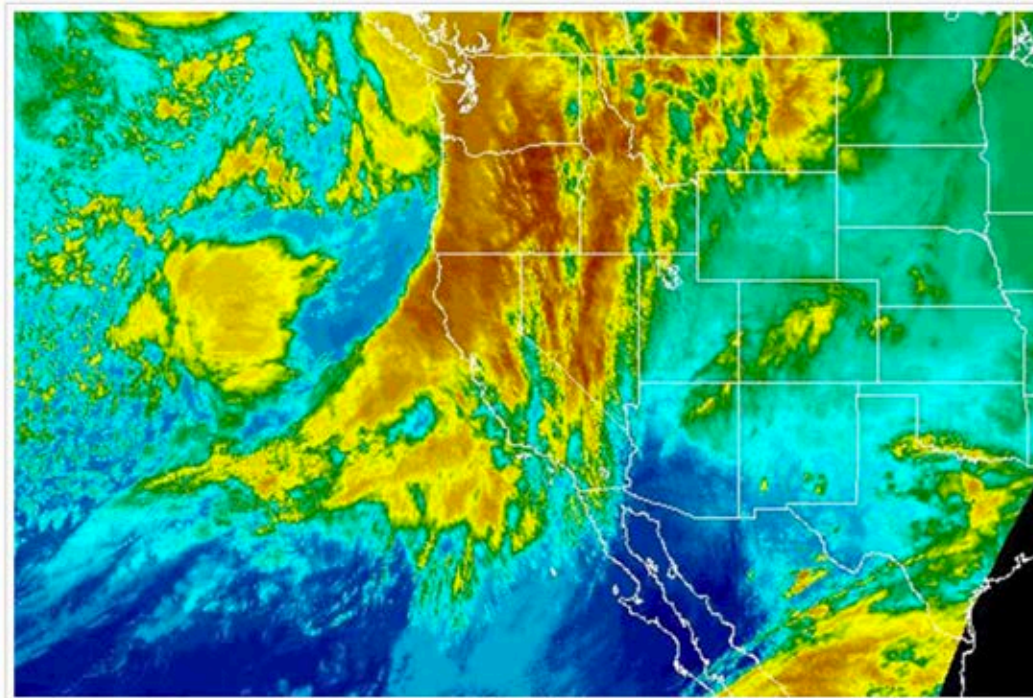


A recent MIT model bears no proximity to climate reality in CA: In 1862 the state of CA went bankrupt, because of a period of rain for three months, floods destroyed one quarter of all homes in CA at a CO₂ concentration 260 ppm. The next major catastrophes were in 1907, 1912, and 1969. No major flood since 50 years at CO₂ concentration of 407 ppm. **The catastrophe comes out of the computer!**

MIT: 'more extreme storms' for California due to warming - but history mocks the claim

Anthony Watts / 21 hours ago January 3, 2017

From the "models can make you believe anything" department comes this breathless doom-laden press release from the same school that brought you the big wheel of silly climate model results.



The "Pineapple Express" hits California in 2014 Image: NOAA

Study finds more extreme storms ahead for California

New technique predicts frequency of heavy precipitation with global warming

Statistische Untersuchungen des **Gießener Physikers Prof. Dr. Armin Bunde (my former classmate)** und Kollegen belegen:

Trends wie die globale Erwärmung werden in Klimamodellen offenbar überschätzt -
Publikation in Physical Review Letters

Erwärmung ist offenbar nicht ganz so gravierend wie vielfach befürchtet. Dies bedeutet zwar keine Entwarnung von wissenschaftlicher Seite, zeigt aber, dass kein Anlass zu Panikreaktionen und übertriebener Hektik bei politischen Entscheidungen besteht.

Und nun die schlechte Nachricht: **Klimamodelle sind weit schlechter als ihr Ruf**. Sie reproduzieren die Gesetzmäßigkeiten des Wetters längst nicht so wie erhofft und spiegeln somit die tatsächlichen Entwicklungen nur unzulänglich wider.

Climate Models must not be considered!

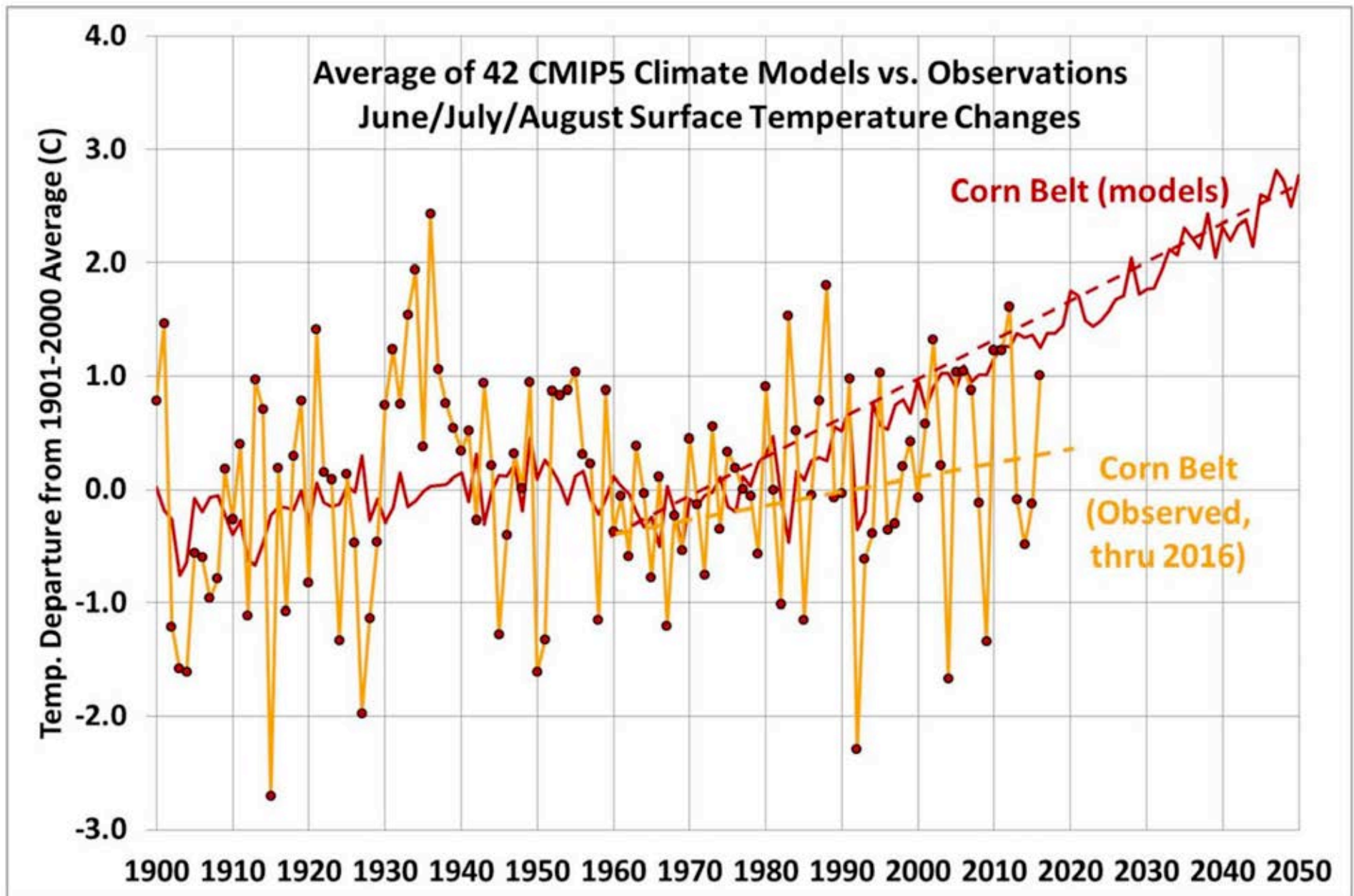
Let us also see the video of

Prof. Patzelt, Univ. of Innsbruck on climate data

As an **example of the disconnect between reality and climate models** which are being relied upon to guide energy policy, here are the yearly growing season average temperatures in the U.S. 12-state corn belt (official NOAA data), compared to the average of the climate model projections used by the IPCC:

Climate Models versus Observations

From Dr. Roy Spencer, Jan. 2017



Global sea level measurements: no future flooding

In dieser Hinsicht sieht der Vizepräsident des Alfred-Wegener-Instituts Prof. Dr. Miller [6] auch für die Zukunft kein Überflutungsproblem, indem er feststellt, daß "...Grönland zwar sehr wahrscheinlich an Masse verlieren wird, aber dieser Massenverlust durch verstärktes Abschmelzen in Grönland wird kompensiert durch eine Eiszunahme in der Antarktis" und weiter "... nach den von uns berechneten Szenarien kommen wir zu dem Schluss, daß Veränderungen der großen Eismassen keinen Beitrag zu einem Meeresspiegelanstieg leisten werden"

The same result has been obtained by a comprehensive study conducted by the Army Corps of Engineers, WES, Vicksburg analyzing thousands of gauges worldwide

Physical mechanism: Temperature and CO₂

forcing and feedback mechanisms

$$S = s T^4, \quad s = 5.67 \times 10^{-8} \text{ W m}^{-2} \text{ K}^{-4}$$

$$dT = dS \times T \times (4 S)^{-1}$$

formula for doubling of CO₂ concentration, IPCC data

$$dS = 3.7 \text{ W m}^{-2}, \quad T = 255 \text{ K}, \quad S = 235 \text{ W m}^{-2}$$

$$dT = 5.35 \times \ln(C/C_0) \text{ W m}^{-2}$$

where C_0 denotes, for instance, the concentration in 1980 (270 ppm),
logarithmic law leads to saturation, i.e., eventually temperature insensitive to CO₂

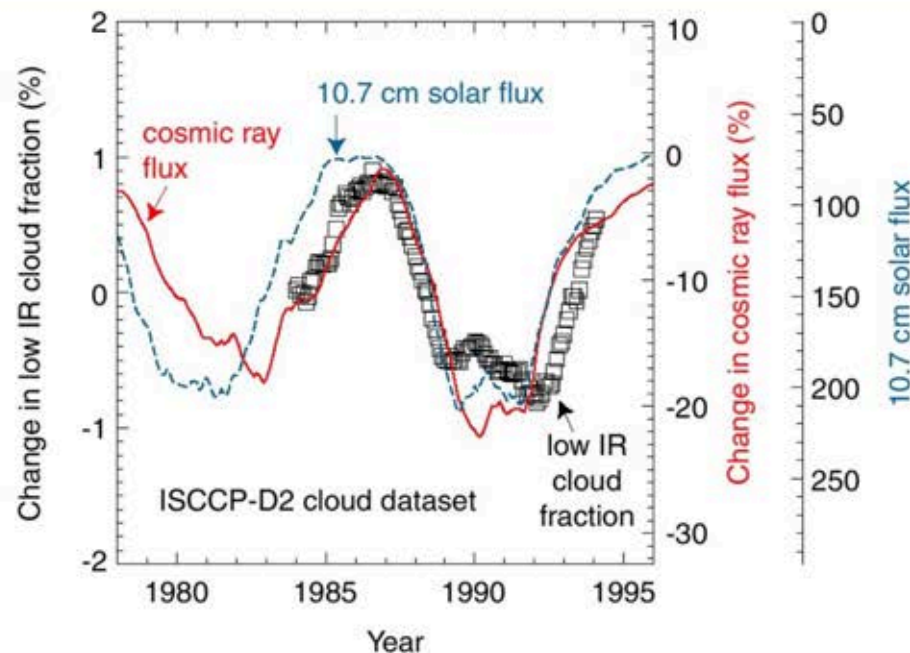
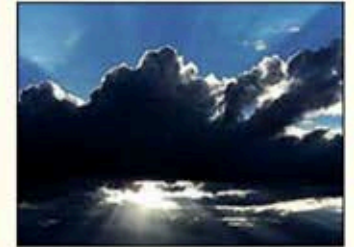
positive and negative feedbacks

$$T/T_0 = (1-f)^{-1}$$

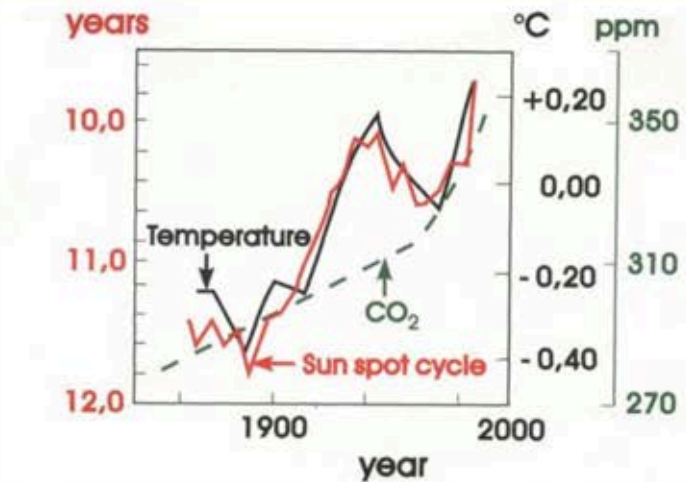
where $f < 1$

Physical mechanism: Cosmic rays and solar radiation

- Sonnenaktivität beeinflusst Magnetosphäre (des Sonnensystems)
- Fluss der kosmischen Strahlung dadurch moduliert
- Hochenergetische Strahlen ionisieren Luft in geringen Höhen
- Kondensationskeime für Wolken in ca. 3 km Höhe

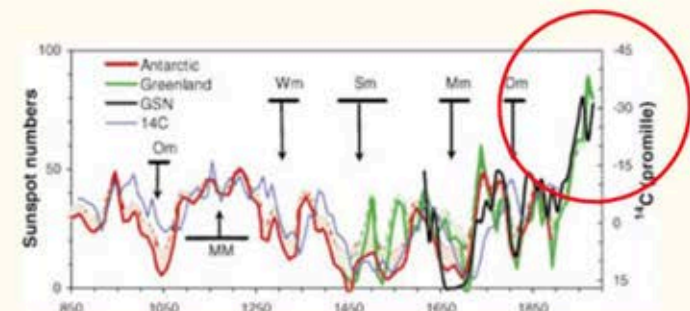


(Svensmark & Friis-Christensen 1997)



Temperatur im letzten Jahrhundert folgte Sonnenaktivität eher denn CO₂

Die Sonnenaktivität war im letzten Jahrhundert deutlich höher als im Jahrtausend davor.
Die Radiokarbonkonzentration (und damit der Fluss der kosmischen Strahlung) folgt den Sonnendaten.



Physical mechanism: Cosmic rays and solar radiation

CLOUD experiment at CERN: May 2016

Unexpected experimental result: aerosol formation occurs naturally from trees:

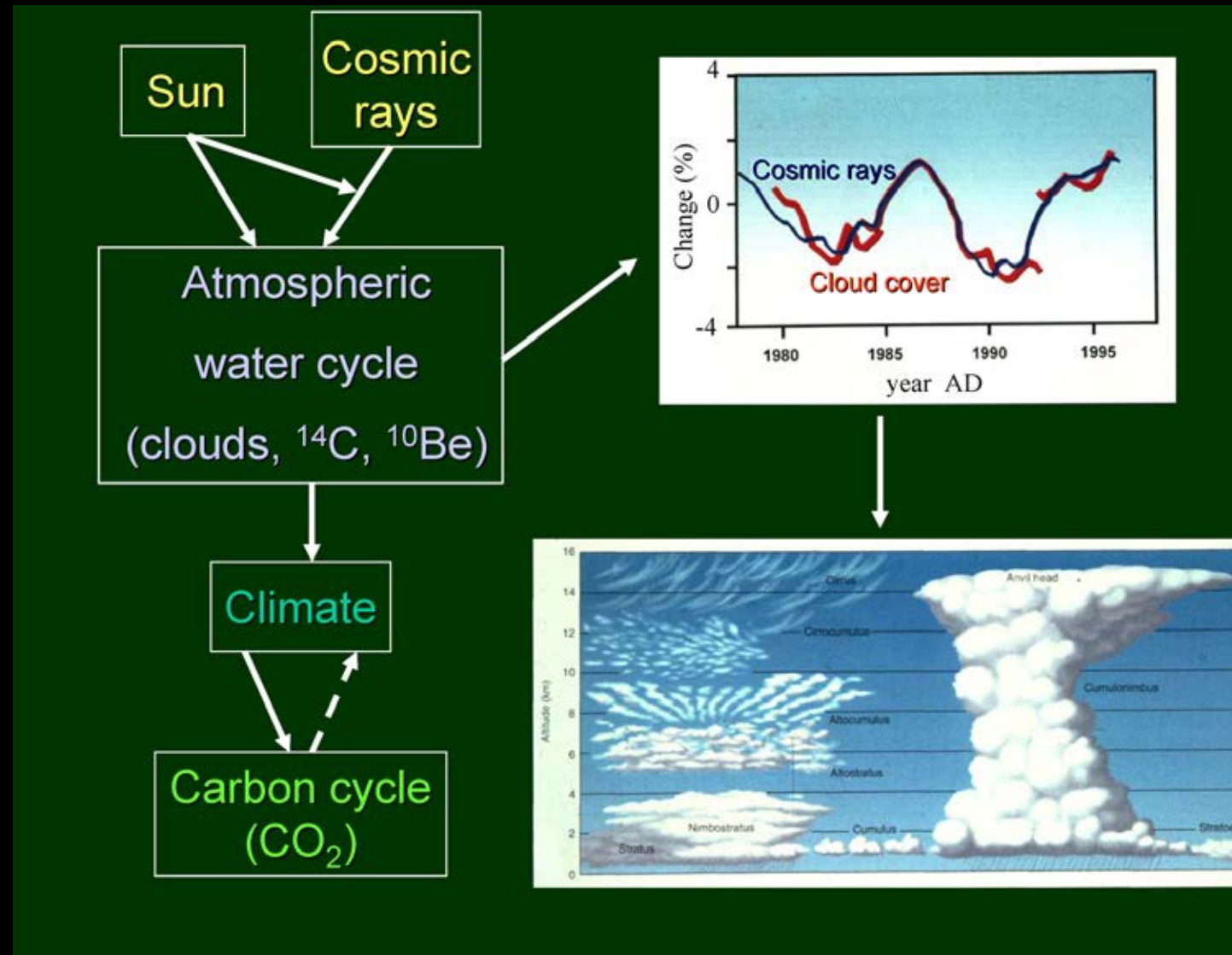
CERN scientists have discovered that projected temperature increases over the next century may have been over estimated. In addition, CERN, the European Organization for Nuclear Research, have left the issue even more confusing after discovering, while creating a fake cloud, that trees could have been putting these aerosols into the atmosphere since they first grew at the time of the dinosaurs.

Veizer, Svensmark, and Shaviv Solar-Cosmic Theory

Physical mechanism: Impact of the sun on global temperature:

SKY and CLOUD experiments:

Magnetic field of the Sun deflects cosmic radiation that causes ionization, and ionized particles are forming aerosols in the lower atmosphere that are the seed for cloud formation that, in turn, is shielding solar radiation. A proxy should be the ^{10}Be concentration, but **NOT necessarily the number of sun spots** that are only reflecting the number of **closed** magnetic field lines, but not the number of **open** field lines that go into outer space.

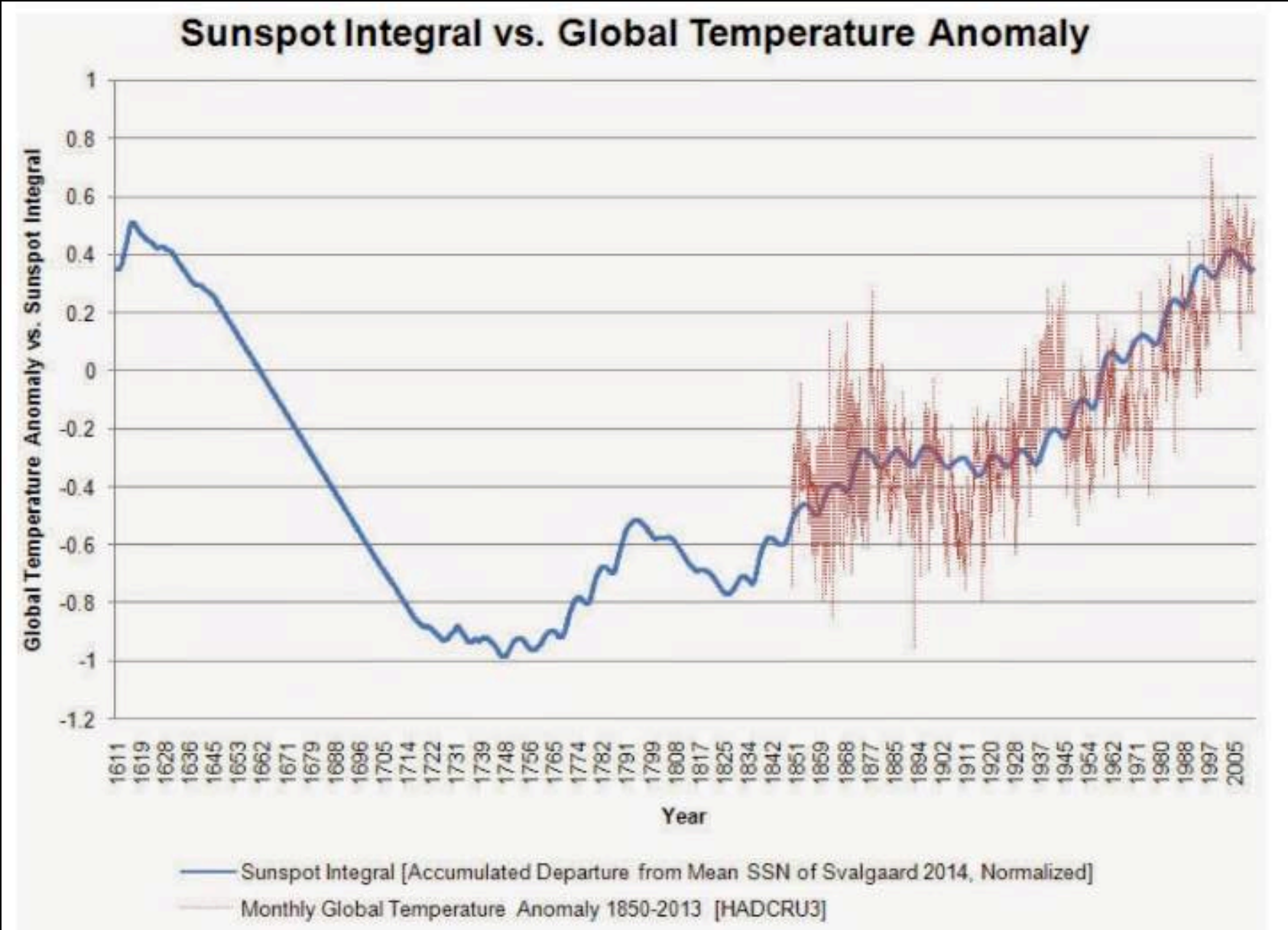


Determining the Sun's activity by the Number of Sun Spots and the Problem of Closed Magnetic Field Lines (credit NASA)

The picture clearly shows that the number of sun spots is **not a reliable proxy** for the magnitude of the Sun's magnetic field, i.e., the activity of the Sun, because of the **closed** magnetic field lines that curve back onto the Sun's surface and do **not reach out far enough** into space. Thus they cannot deflect the cosmic radiation (that comprises electrically charged particles) that is en route to the Earth. In other words, only those magnetic field lines that close in at infinity will be able to deflect the cosmic particles so they cannot reach Earth. Thus the amount of ionization in the lower atmosphere of the Earth decreases. In that way, the formation of aerosol particles in the lower atmosphere is reduced, and cloud formation is hampered. As a consequence, the surface of our planet will experience a higher solar energy flux. Hence, instead, the concentration of the **Be 10 isotope** should be measured that is generated by the incoming cosmic radiation.



From Website Prof. N. Shaviv, 2017: Solar physicist Dr. Leif Svalgaard has revised his reconstruction of sunspot observations over the past 400 years from 1611-2013. Plotting the "time integral" of sunspot numbers from Dr. Svalgaard's data shows a significant increase in accumulated solar energy beginning during the 1700's and continuing through and after the end of the Little Ice Age in ~1850. After a ~30 year hiatus, accumulated solar energy resumes a "hockey stick" rise for the remainder of the 20th century, followed by a decline beginning in 2004, all of which show remarkable correspondence to the HADCRU3 global temperature record:



CLOUD experiment at CERN: May 2016

Unexpected experimental result:

aerosol formation occurs naturally from trees:

Boffins from CERN have also discovered projected temperature increases over the next century may have been over estimated. But now CERN, the European Organization for Nuclear Research, have left the issue even more confusing after discovering, while creating the fake cloud, that trees could have been putting these aerosols into the atmosphere since they first grew at the time of the dinosaurs.

Physical mechanism: Impact of the sun on global temperature: CLOUD experiment

From journal *Science*, 25 May 2016:

Clouds need to condense around small particles called aerosols to form, and human aerosol pollution—primarily in the form of sulfuric acid—has made for cloudier skies. That's why scientists have generally assumed Earth's ancient skies were much sunnier than they are now. But today, three new studies show how naturally emitted gases from trees can also form the seed particles for clouds. The results not only point to a cloudier past, but they also indicate a potentially cooler future: If Earth's climate is less sensitive to rising carbon dioxide (CO₂) levels, as the study suggests, future temperatures may not rise as quickly as predicted.

"It's been long thought that sulfuric acid is really the key player [in cloud formation]," says atmospheric chemist Chris Cappa of the University of California, Davis, who was not involved in the research. The studies "show pretty convincingly that we don't need sulfuric acid around to allow new particles to grow." To simulate ancient atmospheric conditions, one research group used CLOUD (Cosmics Leaving Outdoor Droplets), a controlled chamber at CERN, Europe's particle physics facility near Geneva, Switzerland. Nearly as big as a bus, the chamber was filled with synthetically produced air, allowing precisely controlled chemical conditions. Jasper Kirkby, a CERN particle physicist, and his colleagues introduced a mixture of natural oxidants present in the air and an organic hydrocarbon released by coniferous plants. The hydrocarbon was rapidly oxidized.

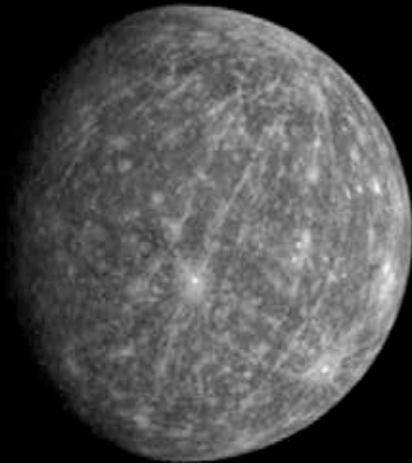
The only other ingredient allowed in the chamber was cosmic rays, high energy radiation from outer space, which made the molecules clump together into aerosols. Sulfuric acid was not required. In fact, even when the researchers introduced low concentrations of sulfuric acid to the chamber such as might be found in unpolluted air, **the aerosol formation rate was unaffected**. In a second CLOUD experiment published simultaneously in *Nature*, researchers showed these same oxidized molecules could rapidly grow the particles to sizes **big enough to seed cloud droplets**.

The understanding of the deterministic properties of the TSI variability is critical for understanding the cause of irradiation variability and how the TSI irradiation will contribute to the natural climate variation on the Earth (ref. 12). Their study of long solar variable data series (1,000 years) has shown that the four large planets are the source of the

solar position variability, the TSI variability, and the sunspot variability.

SOLAR PLANETARY SYSTEM

(CREDIT NASA)



MERCURY



VENUS



EARTH



MARS



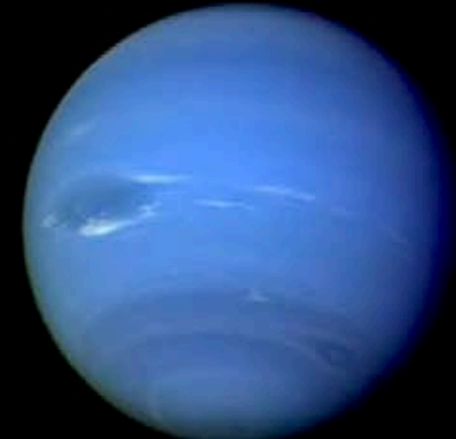
JUPITER



SATURN



URANUS



NEPTUNE

Prof. Rahmstorf, PIK, (falsely) informed the State Parliament of Lower Saxony in 2004 that our anthropogenic CO₂ was causing an acidification of the ocean, which has increased 30%, and as a result the coral reefs are in danger.

Geologist Prof. F.K. Ewert dismisses Stefan Rahmstorf's alarmist claims of man-made ocean acidification.

Are we really seeing the alleged acidity? No. This is because with a pH = 8.1 they are still very much alkaline. Foremost ocean researcher and climate agitator Rahmstorf apparently does not know about the chemistry of the ocean, let alone the coral reefs. Yet he sees himself qualified to judge this.

It is a fact that atmospheric CO₂ concentration over the course of the earth's history was far greater than it is today. And if that is the case, then so were the oceans. It is a fact that the pH value of the oceans has dropped from 8.2 to 8.1. This is nothing more than a small drop in alkalinity because water does not become acidic until the pH drops under 7.0. Whether the current pH change from 8.2 to 8.1 is new and unique, or can also be greater and how it was in former times, is unknown because no long-term measurements are available.

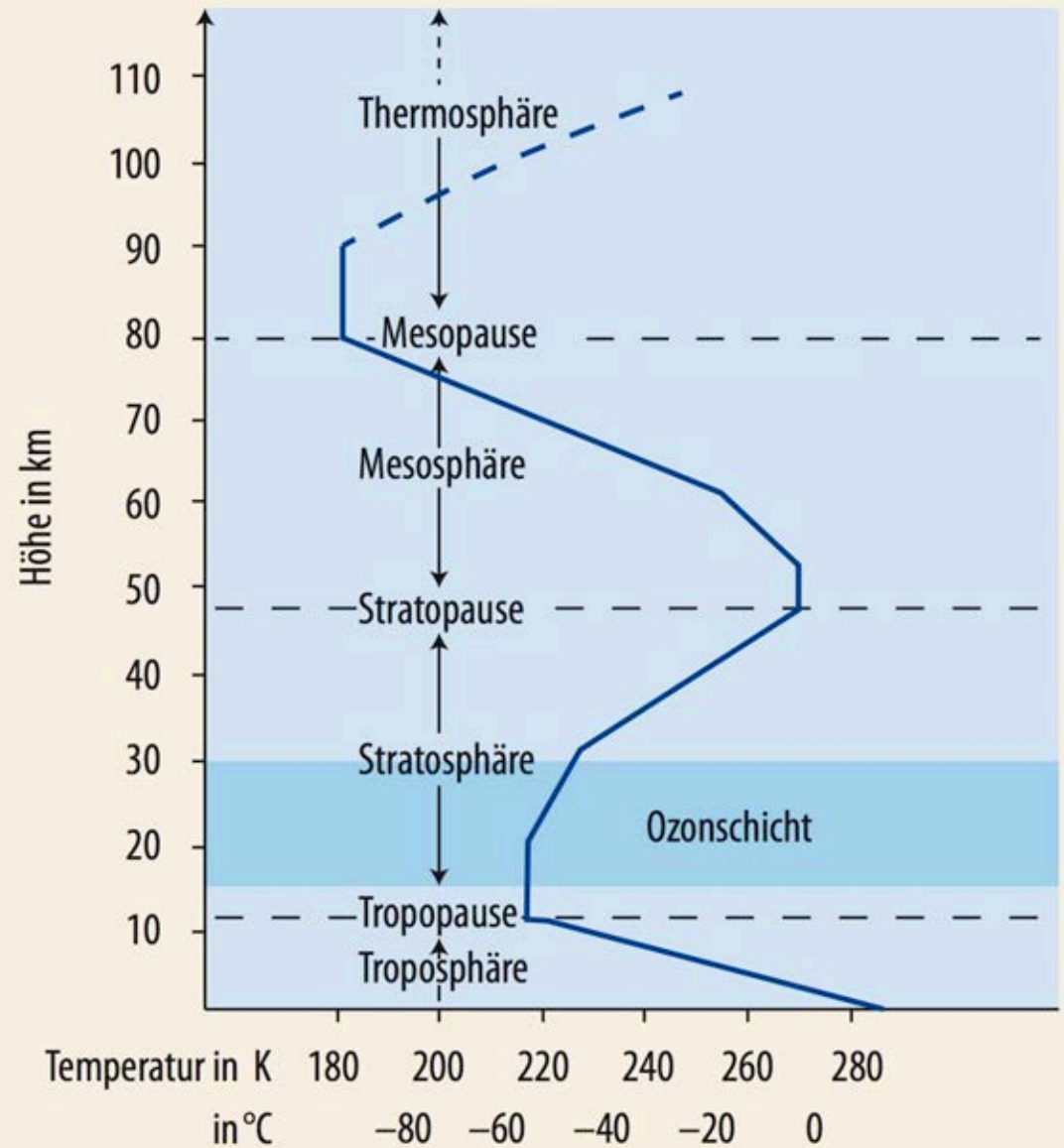
CO₂ and H₂O don't want anything to do with each other and so they separate immediately after their first connection to carbonic acid. Only 1% of carbonic acid reacts and bonds with the plentiful amounts of calcium found in water to form calcium carbonate, which in water is only 0.0114 g/l soluble. While constantly new calcium carbonate forms, as lime slurry it has to settle and form limestone.

Moreover CO₂ is the building block of coral reefs. Their growth begins with algae that live in the corals, and they need CO₂ in order to live and grow, and thus provide for the growth of calcium carbonate skeletons that eventually lead to the formation of the reefs.

Thanks to calcium carbonate we have the Alps.

FACTS

Temperature Distribution in the Atmosphere (credit Journal of European Physics, June 2016)

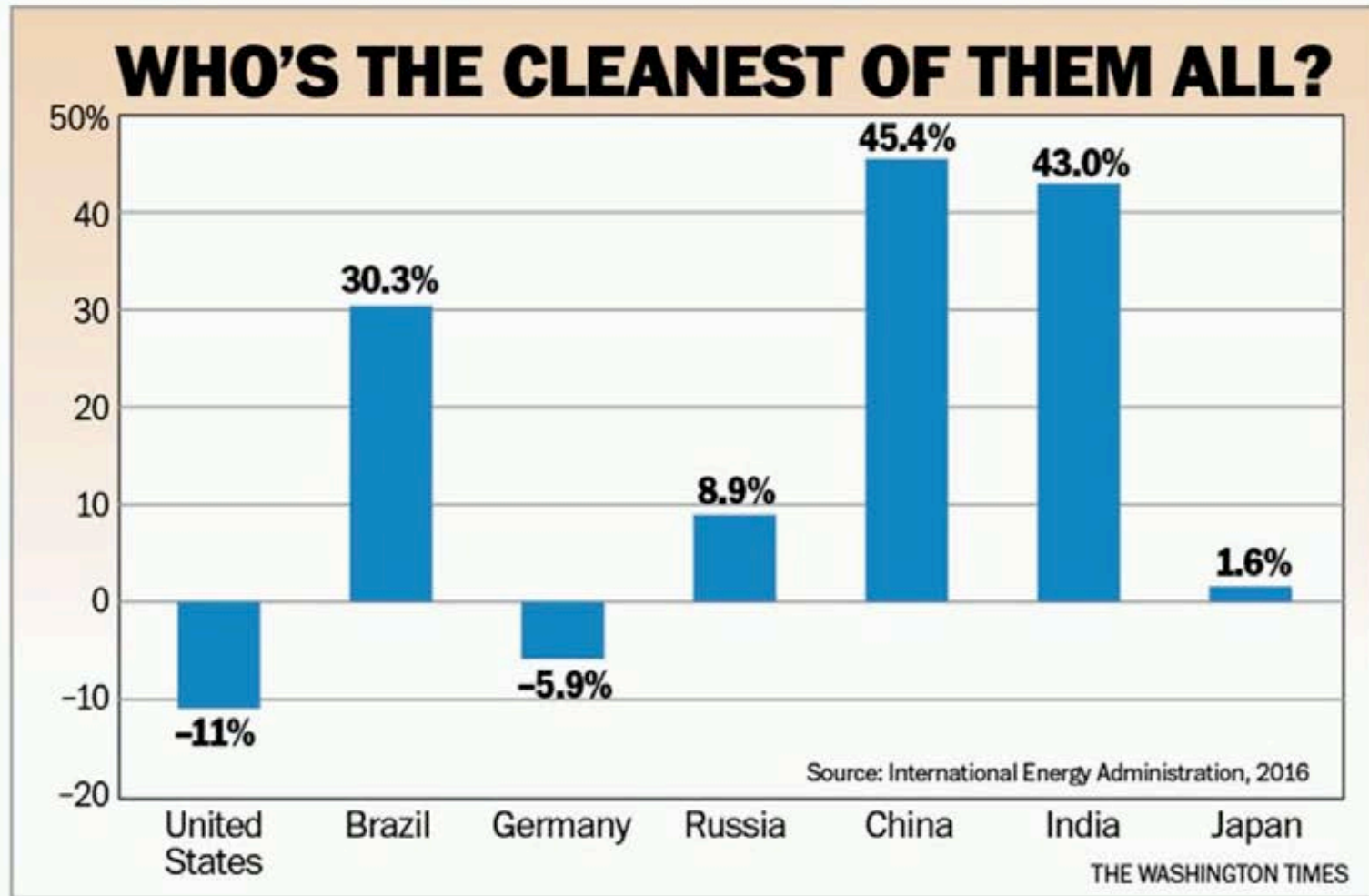


Rising CO₂ Levels Country Overview 2014

there is only **one** number that is correct: Germany (source Wikipedia)

Country ↕	CO ₂ emissions (kt) in 2014 ^[2] ↕	% CO ₂ emissions by country ↕	Emission per capita (t) in 2014 ^[3] ↕
<i>World</i>	35,669,000	100%	5.0
 China	10,540,000	29.55%	7.6
 United States	5,334,000	14.95%	16.5
 European Union	3,415,000	9.57%	6.7
 India	2,341,000	6.56%	1.8
 Russia	1,766,000	4.95%	12.4
 Japan	1,278,000	3.58%	10.1
 Germany	767,000	2.15%	9.3
International Shipping	624,000	1.74%	—
 Iran	618,000	1.73%	7.9
 South Korea	610,000	1.71%	12.3
 Canada	565,000	1.58%	15.9
 Brazil	501,000	1.40%	2.5
 Saudi Arabia	494,000	1.38%	16.8
International Aviation	492,000	1.38%	—
 Mexico	456,000	1.28%	3.7
 Indonesia	452,000	1.27%	1.8
 United Kingdom	415,000	1.16%	6.5
 Australia	409,000	1.15%	17.3
 South Africa	392,000	1.10%	7.4
 Turkey	353,000	0.99%	4.7
 Italy	337,000	0.94%	5.5
 France	323,000	0.91%	5.0

CO₂ Plus and Minus

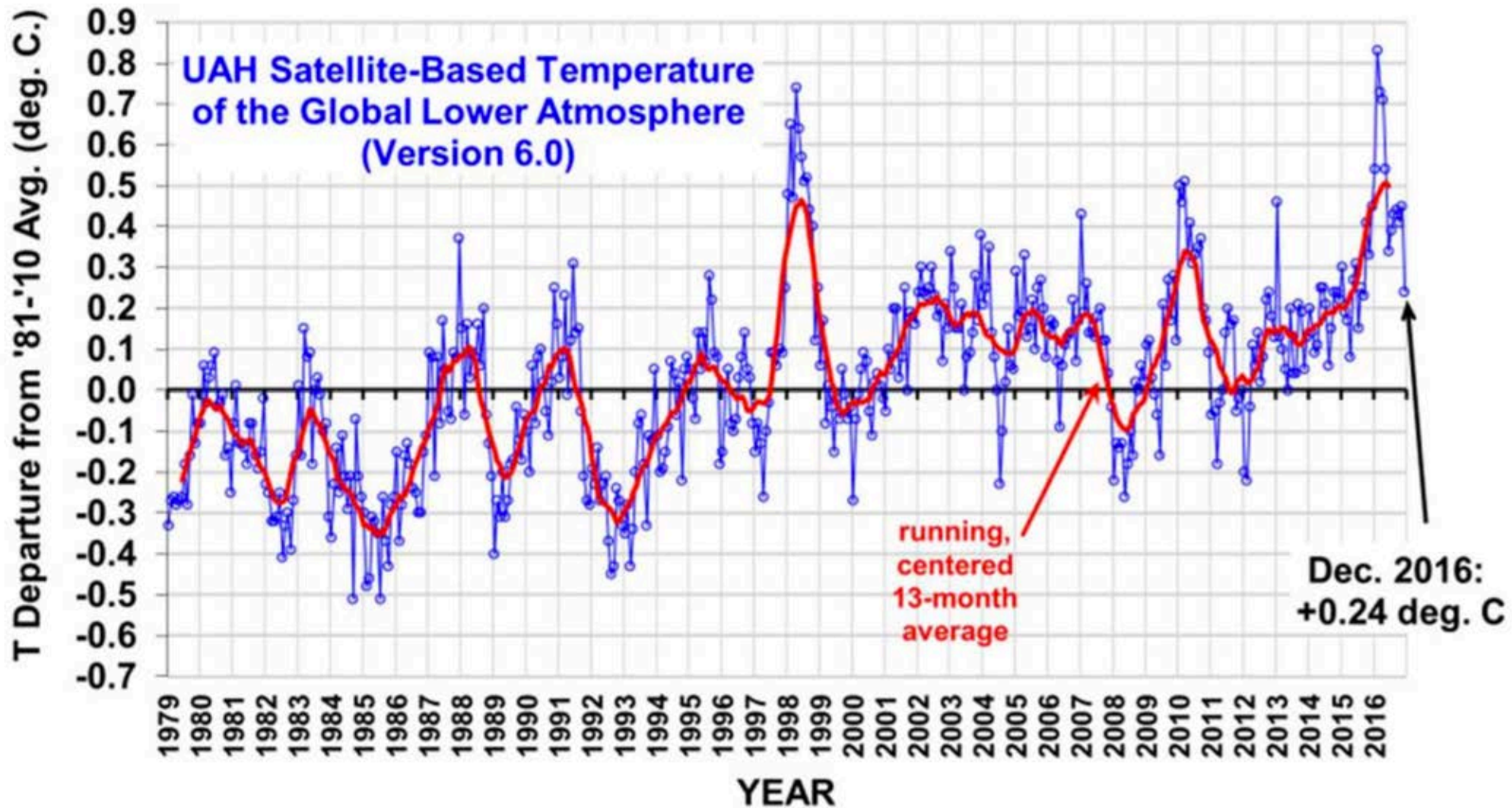


Source: Washington Times,

http://www.washingtontimes.com/multimedia/image/4_102016_moore-chart-0411-208201jpg/

Latest Global Temperatures as of December 2016, Satellites

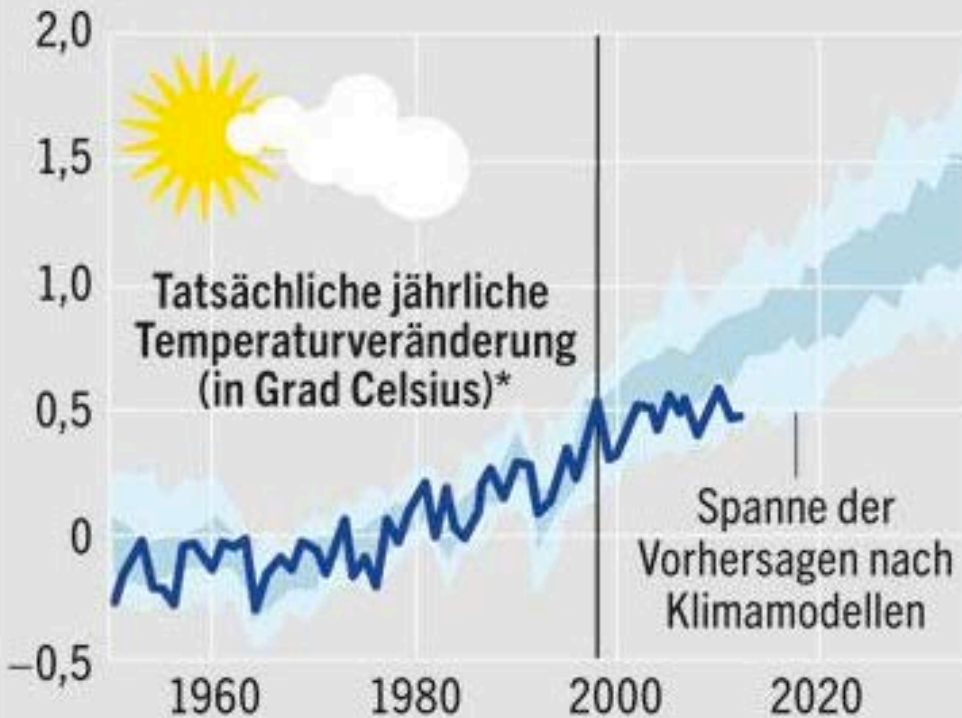
Dr. R. Spencer, UAH



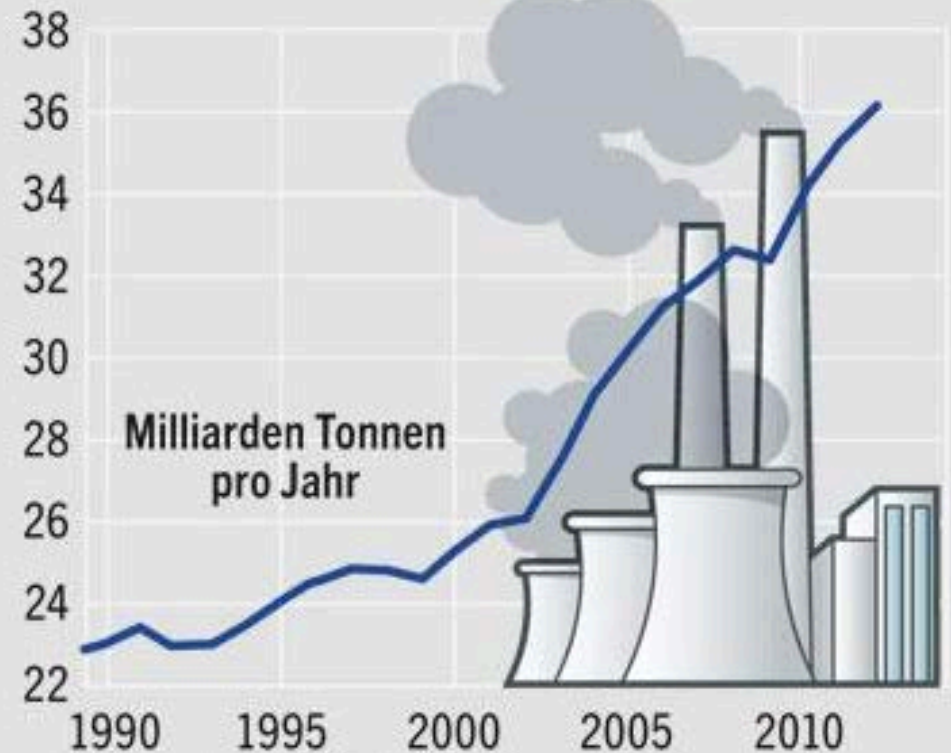
Global Temperature Hiatus since 1998

Stillstand bei der Erderwärmung

Die globale Durchschnittstemperatur stagniert seit 1998...



...obwohl die CO₂-Emissionen steigen



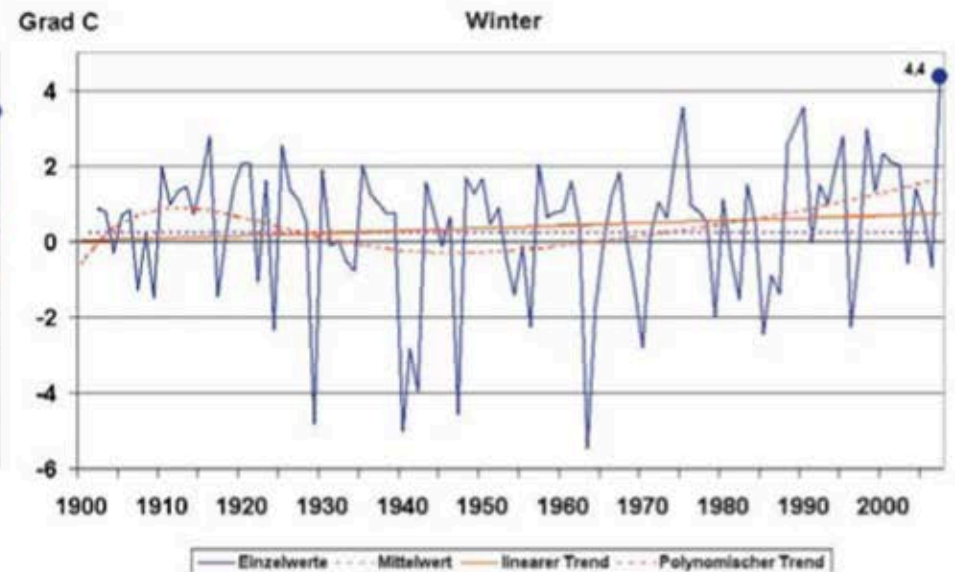
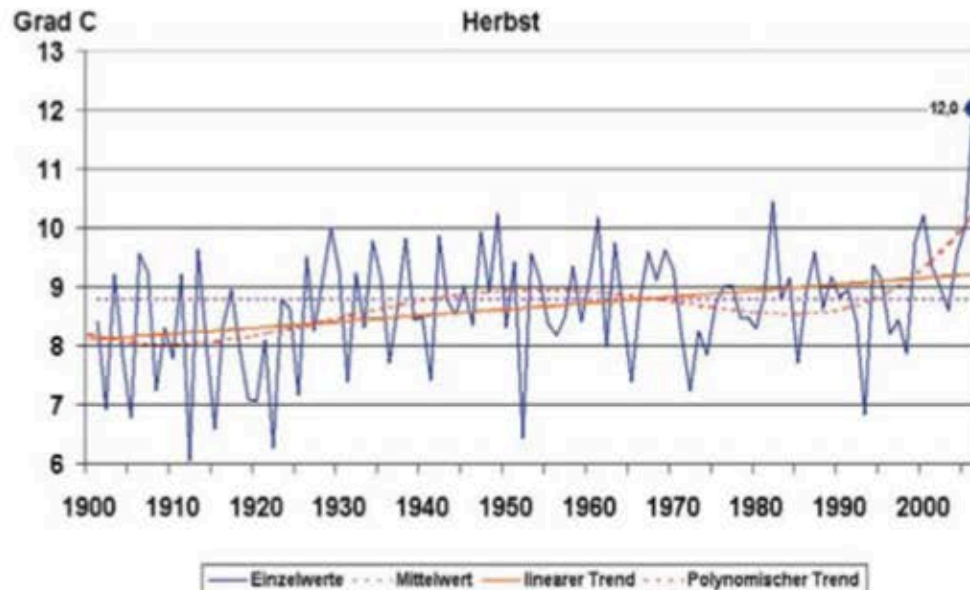
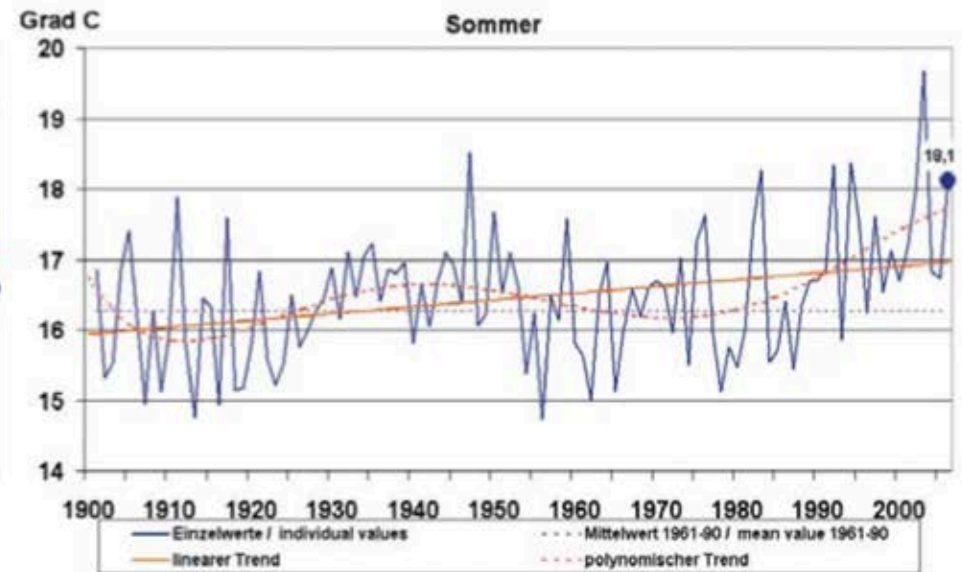
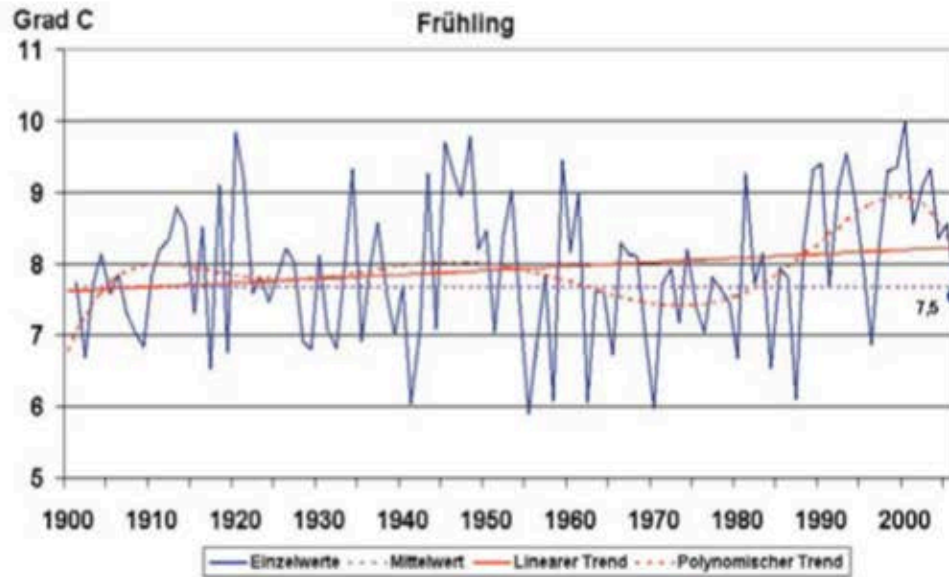
* relativ zur Periode 1961–1990;
Quelle: Global Carbon Project, Nasa

Latest Global Average Tropospheric Temperatures (Dr. R. Spencer, UAH)

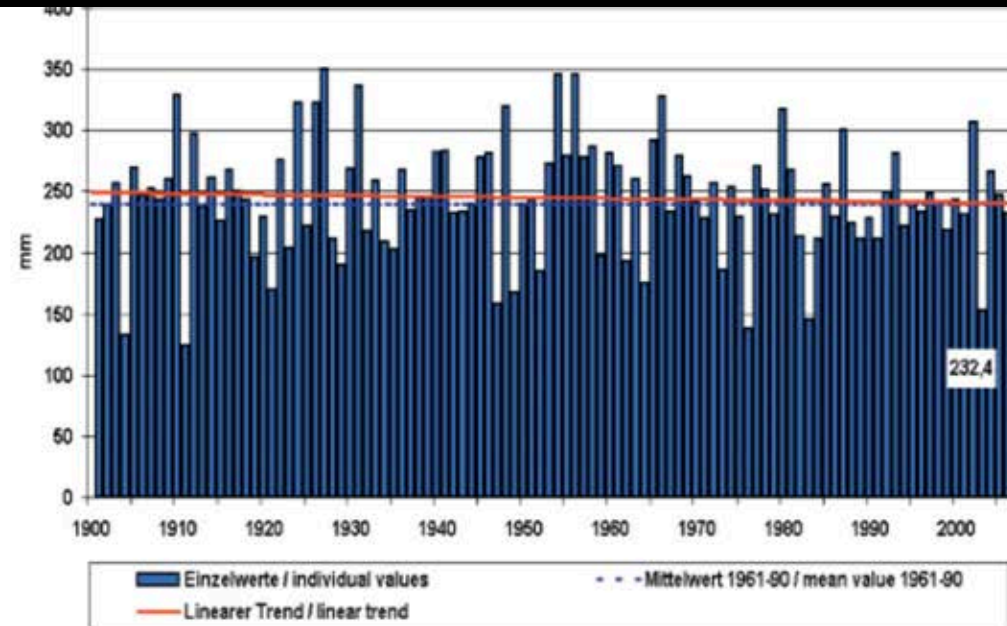
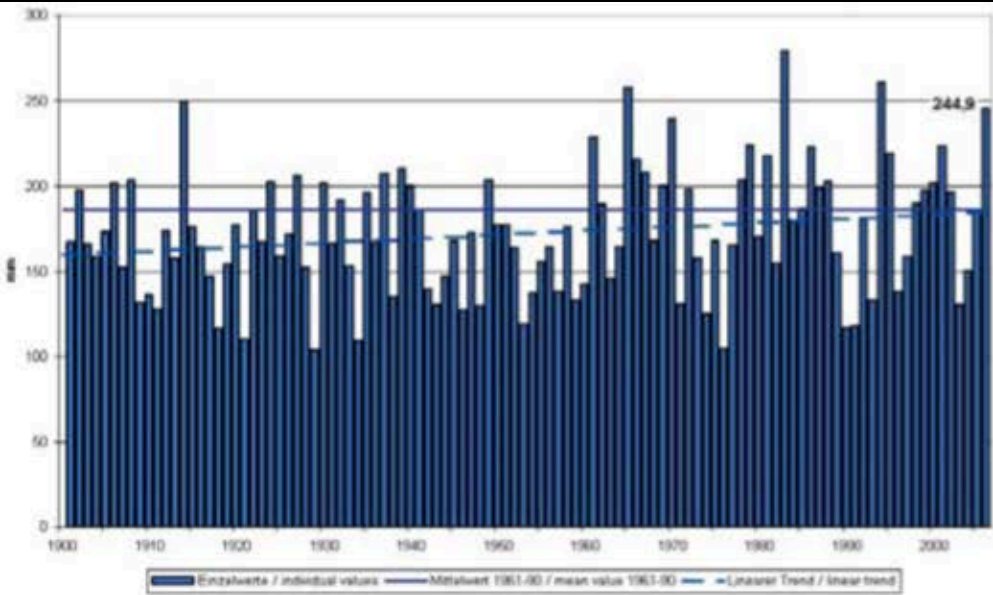
Since 1979, NOAA satellites have been carrying instruments which measure the natural microwave thermal emissions from oxygen in the atmosphere. The intensity of the signals these microwave radiometers measure at different microwave frequencies is directly proportional to the temperature of different, deep layers of the atmosphere. Every month, John Christy and I update global temperature datasets that represent the piecing together of the temperature data from a total of fourteen instruments flying on different satellites over the years. A discussion of the latest version (6.0) of the dataset is located [here](#).

The graph above represents the latest update; updates are usually made within the first week of every month. Contrary to some reports, the satellite measurements are not calibrated in any way with the global surface-based thermometer records of temperature. They instead use their own on-board precision redundant platinum resistance thermometers (PRTs) calibrated to a laboratory reference standard before launch.

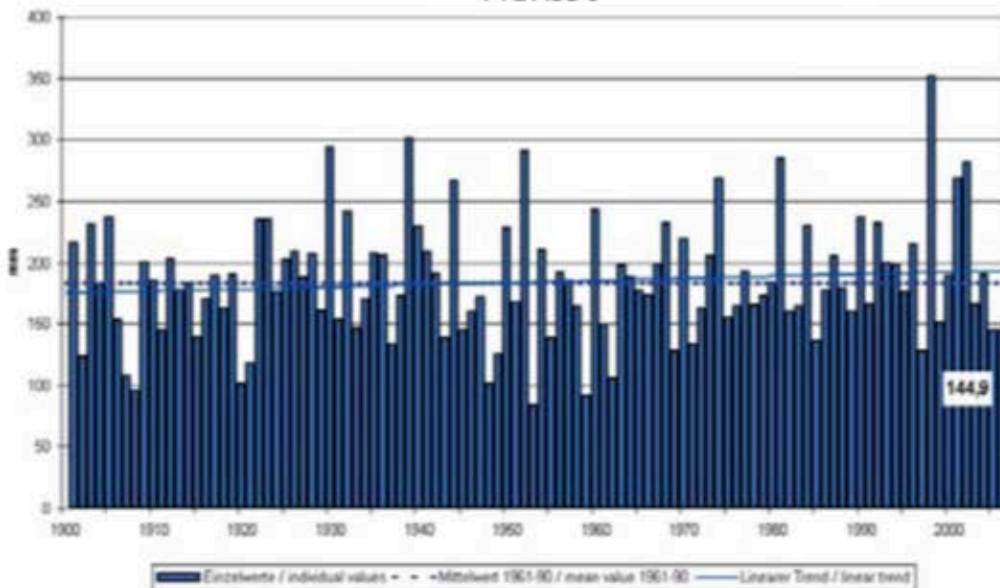
Temperatures: Example Germany Temp 1900-2010, H. von Storch



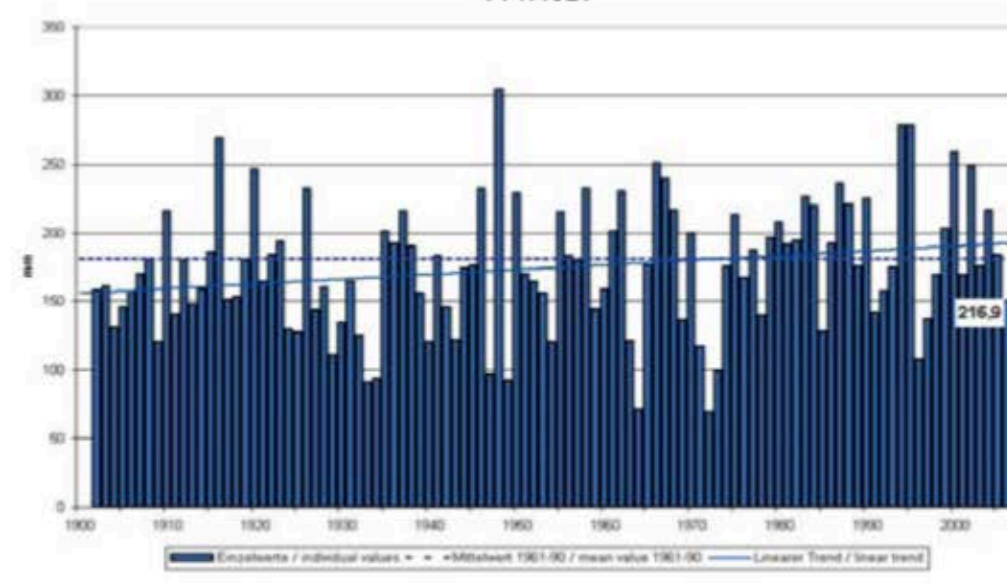
Droughts: Example Germany Rainfall 1900-2010, H. von Storch



Herbst



Winter



Political Correctness in science: Deutsche Klimaphysik

Tichys Einblick, a journal from a former journalist of the newspaper *Welt*, on 16 Dec. 2016 about an incident at the Universität Leipzig that happened to **geologist Prof. Dr. Kirstein**:

Die Dissertation des Doktoranden Limburg zur Messung globaler Temperaturen wird boykottiert, der Genderkritische Vortrag des Professors wird abgesagt, der Paläoklimatologe soll forschen und seine Erkenntnisse für sich behalten, alles weil **politisch nicht erwünscht**. Das Land der Dichter und Denker da und dort nicht dicht (i.e., the **Germans are insane, at least, most of the politicians**).

December 2016: Cold Climate starting around 2020

Professor Valentina Zharkova, Northumbria University:

After studying full-disc images of the sun's magnetic field, Professor Valentina Zharkova of Northumbria University and colleagues, discovered that the sun's dynamo is actually made of two components – coming from different depths inside the sun.

The interaction between these two magnetic waves either amplifies solar activity or damps it down. Professor Zharkova's observations suggest we are due for a prolonged period of low solar activity.

We will see it from 2020 to 2053, when the three next cycles will be very reduced magnetic field of the sun. Basically what happens is these two waves, they separate into the opposite hemispheres and they will not be interacting with each other, which means that resulting magnetic field will drop dramatically nearly to zero. And this will be a similar conditions like in Maunder Minimum.

SEA ICE: ARCTIC AND ANTARTIC

According to CFACT: Status end 2014:

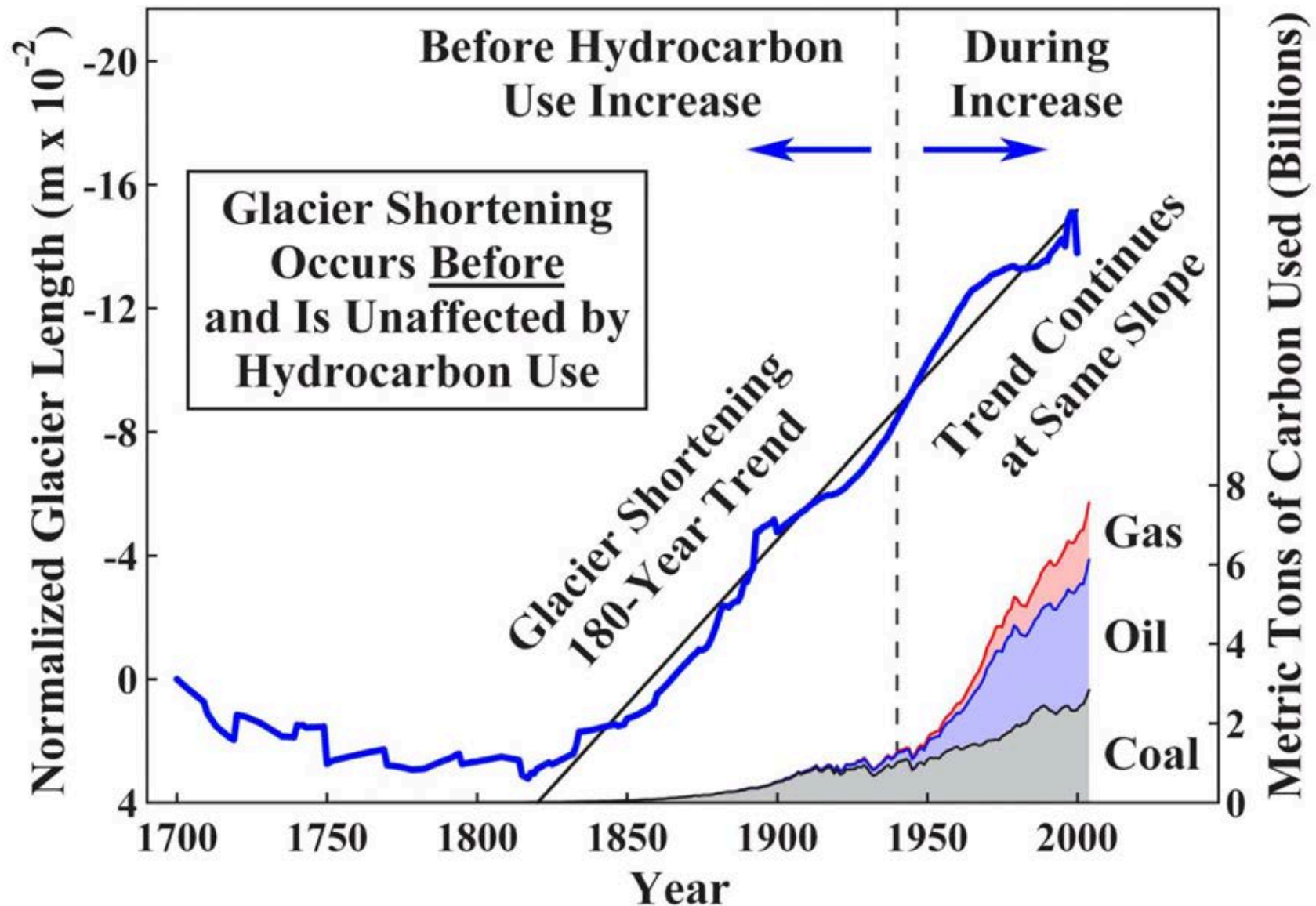
Arctic sea ice: some Alaskan glaciers have been retreating for decades, but **Hubbard is growing** while **Glacier Bay's ice retreat** began around 1750. Arctic sea ice has increased some 26% (400,000 square miles) since 2012, in a cycle that's continued for millennia. The sea ice "was thick in the 1920s, thin in the 1930s and 1940s, thick again in the 1960s and 1970s, and thinner in recent decades," oceanographer Igor Polyakov noted in 2004.

Antarctic sea ice: set another record in May, the U.S. National Snow and Ice Data Center reports, climbing 12% above the long-term 1981-2010 average, to reach 12.1 million square kilometers – the gain is almost as much as Alaska and Texas combined!

However, there is a long term downtrend in sea ice since the 1980s.

Glacier Lengths since 1850

Taken from ref. 1, same results as Prof. Patzelt, Univ. of Innsbruck, Austria



Antarctic and Arctic Ice Sheets

The Antarctic and Greenland ice sheets contain more than 99 percent of the freshwater ice on Earth. The Antarctic Ice Sheet extends almost 14 million square kilometers, roughly the area of the contiguous United States and Mexico combined.

The Antarctic Ice Sheet contains 30 million cubic kilometers of ice. The Greenland Ice Sheet extends about 1.7 million square kilometers, covering most of the island of Greenland, three times the size of Texas.

Arctic and Antarctic Sea Ice Level Predictions

In 2007, Prof Wadhams predicted that sea ice would be lost by 2013 after levels fell 27 per cent in a single year. However, by 2013, ice levels were actually 25 per cent higher than they had been six years before. In 2012, following another record low, Prof Wadhams changed his prediction to 2016.

The view was supported by Prof. Maslowski, who in 2013 published a paper in the Annual Review of Earth and Planetary Sciences also claiming that the Arctic would be ice-free by 2016, plus or minus three years.

Interesting enough, this phenomenon would not cause any change in Sea Level Rise, nothing of this sort has been observed.

However, far from record lows, this year the Arctic (Nov. 2014) has seen the quickest refreeze ever recorded with the extent of sea ice growing 405,000 square miles (1.05 million square kilometres) in just three weeks since the September 10 minimum. The Danish Meteorological Institute said that refreezing is happening at the fastest rate since its daily records began in 1987.

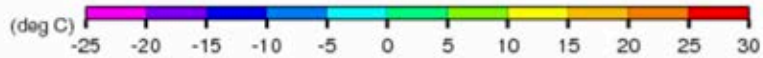
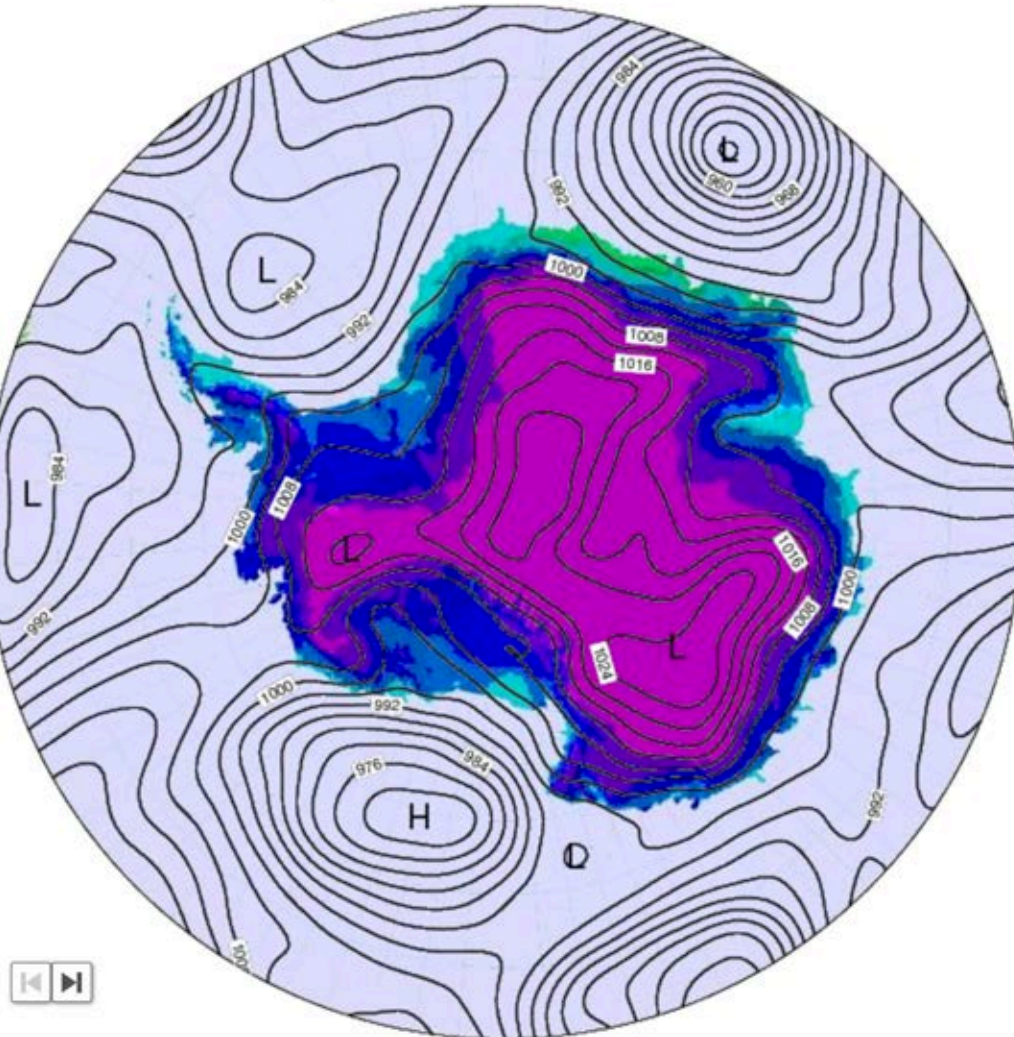
Antarctic

Arctic

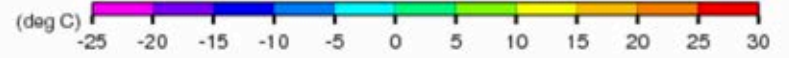
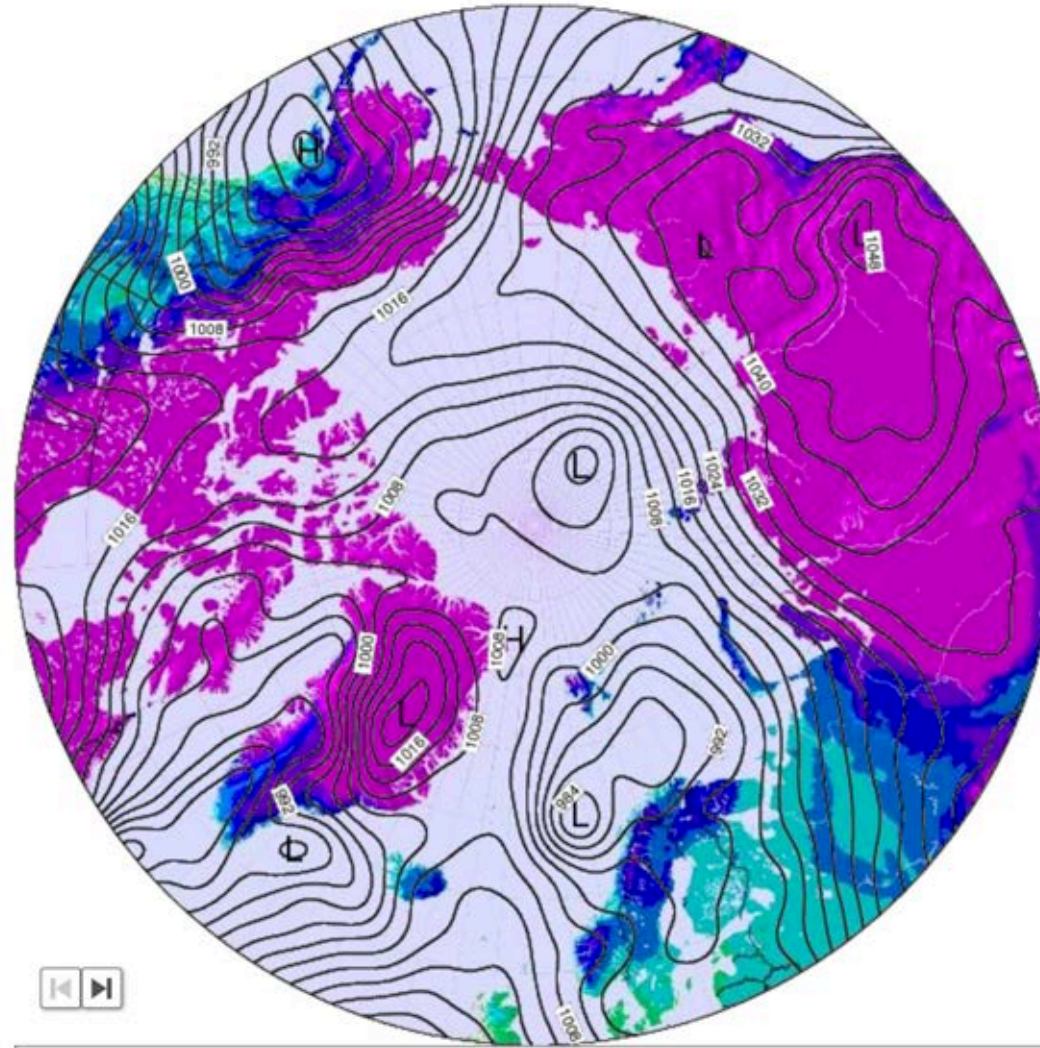
Temperatures on 14 -15 Jan 2017

Surface Temperature on Sunday 15 Jan at 1am NZDT

Surface Temperature on Saturday 14 Jan at 12pm UTC



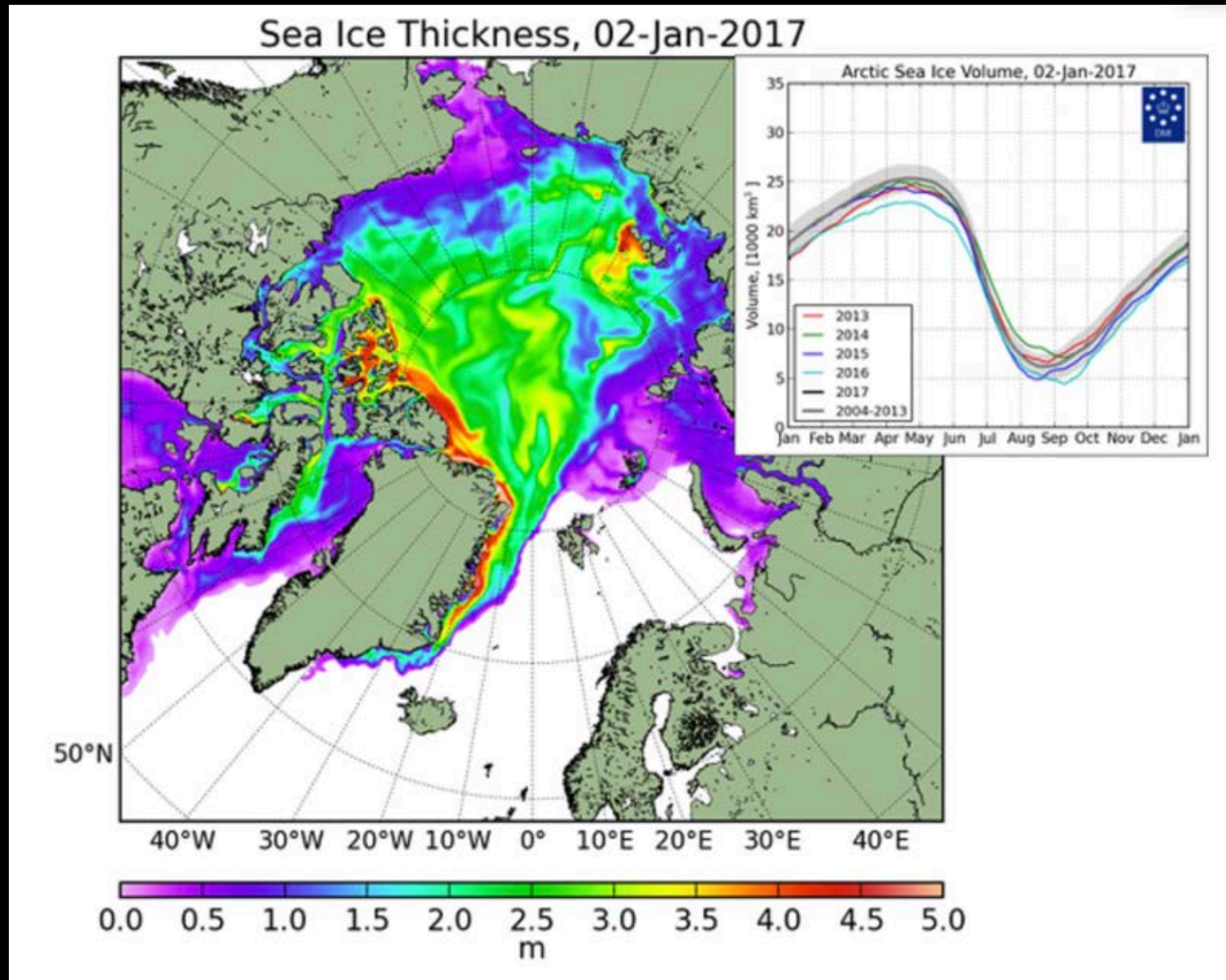
Sea Level Pressure in Millibars Sunday 15 Jan at 1am



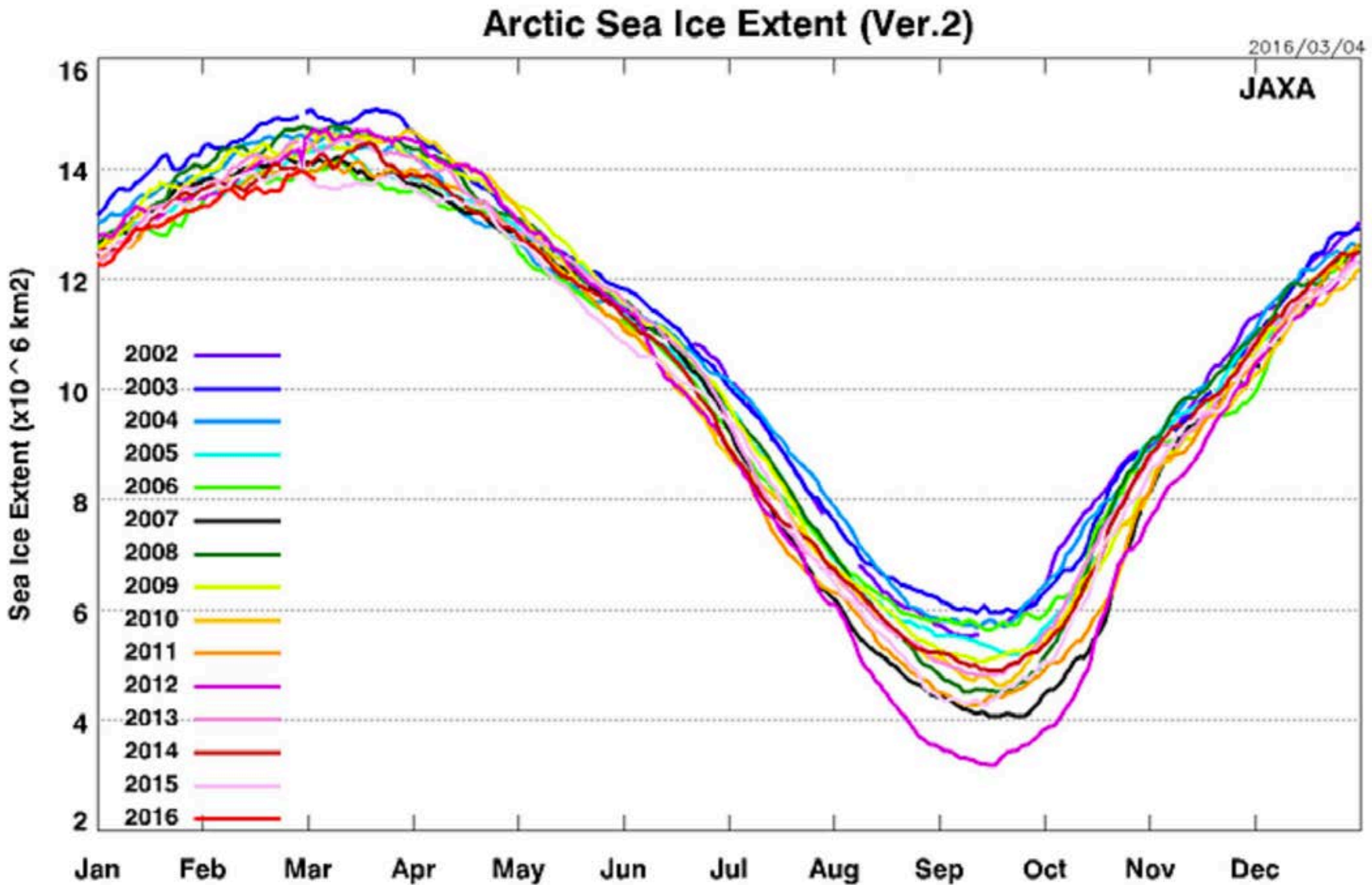
Sea Level Pressure in Millibars Saturday 14 Jan at 12pm

Danish Meteorological Institute: Arctic Sea Ice Level as of 2 and 3 January 2017

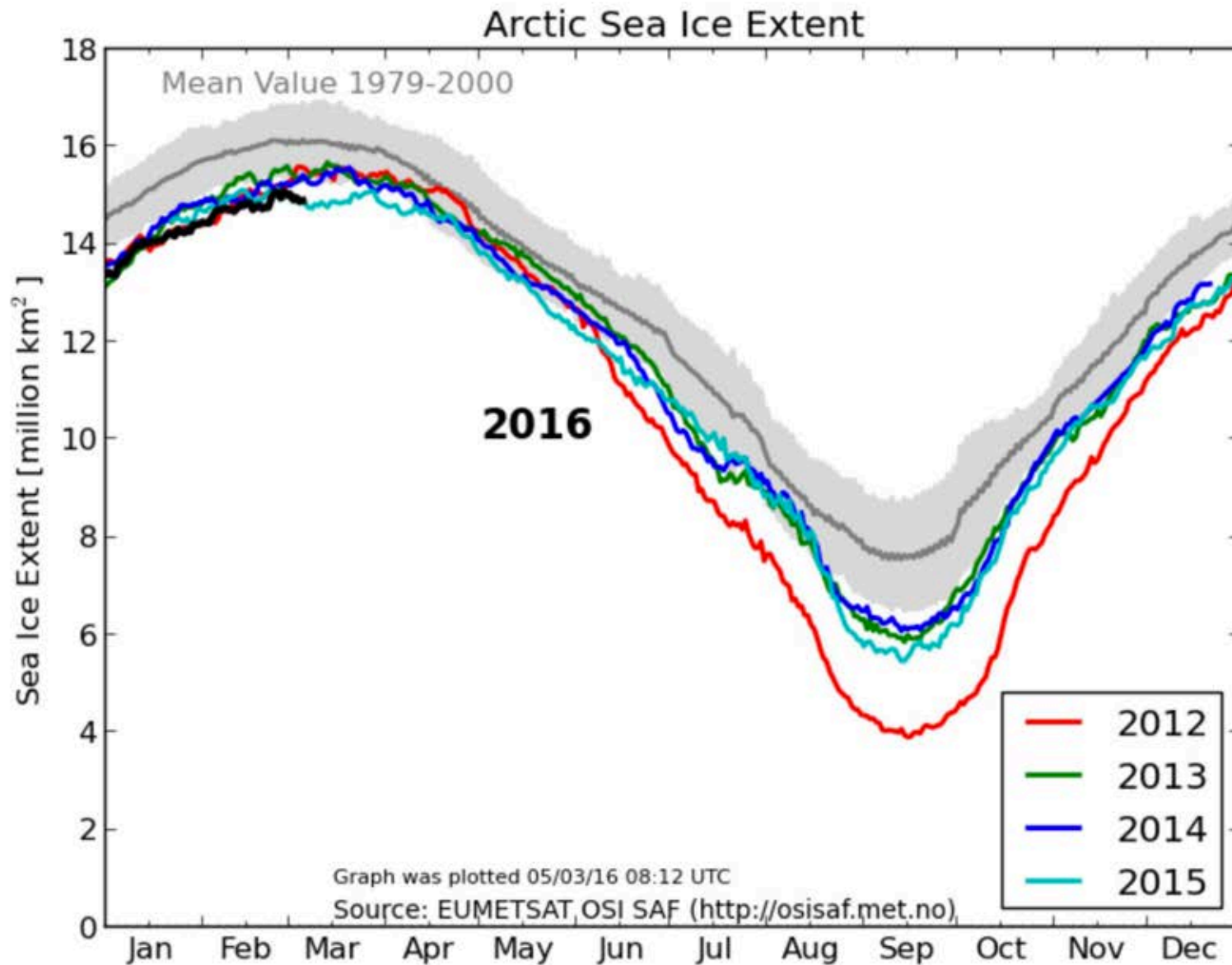
The plots show maps with sea ice thickness, and seasonal cycles of the calculated total arctic sea ice volume. The mean sea ice volume and standard deviation for the period 2004-2013 are shown with gray. The figures are based on calculations using DMI's operational ocean and sea ice model HYCOM-CICE.



Arctic Sea Ice Level 2002-2016 Downtrend



ARTIC Sea Ice compared to average 1979-2000



Sea Ice Cover Rigged Data by NOAA

NOAA satellite records actually extend back much further than 1979, but NOAA hides them because 1979 was the peak and the earlier records wreck their scam. Ice extent in 1974 was nearly two million km² lower in 1974 than it was in 1979.

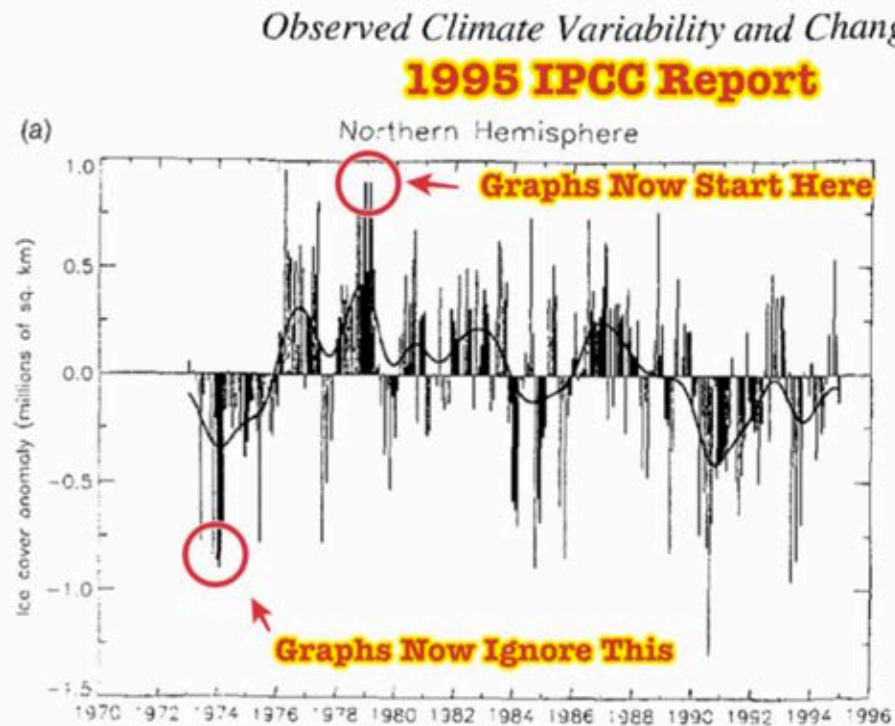


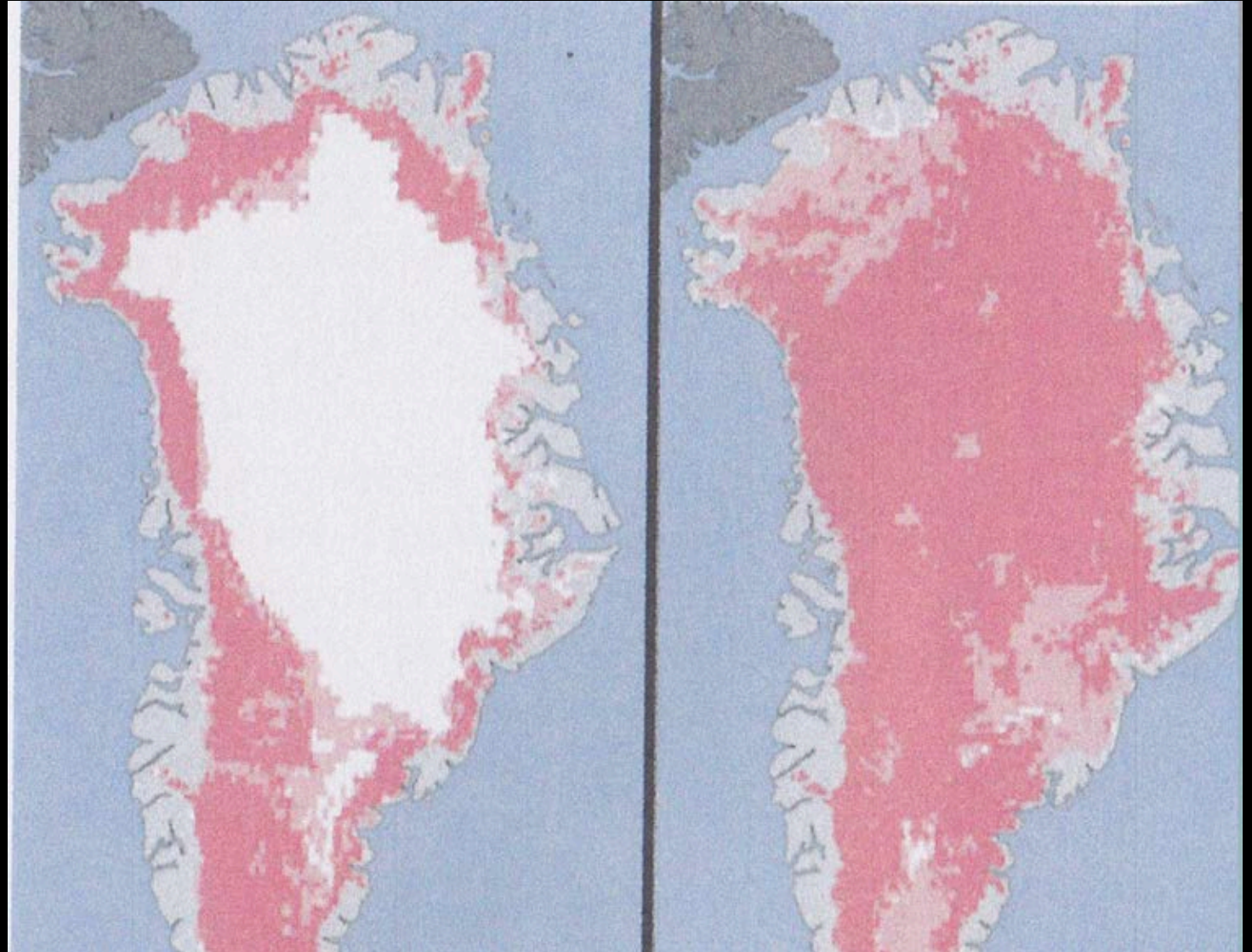
Figure 3.8: Sea ice extent anomalies relative to 1973–1994 for (a) the Northern Hemisphere and (b) the Southern Hemisphere. Data from NOAA (USA). Smooth lines generated from a 128-point binomial filter applied to the monthly anomalies. Heavy bars represent December–February in the Northern Hemisphere or June–August in the Southern Hemisphere.

Arctic Ice Disappears within Four Days

German Newspaper's Data Rigging: Northpole ice **melted** within four years.

However: white: ice cover , red is molten ice (surface water of a few millimeters, the ice beneath is, of course, still there.

In reality all the ice is still there. The thin surface layer of water is seen as red by the satellite, hence the white ice cover disappeared. The German newspaper (RNZ) changed the four days into four years and wanted to believe their readers that the North pole virtually has become ice free (taken from ref. 8).



Flora and Fauna: Penguins, climate change and Pseudoscience (June 2016)

UD scientists report **projected** response of **Adélie penguins** to Antarctic climate change

It's a big question: how is climate change in Antarctica affecting Adélie penguins? Climate has influenced the distribution patterns of Adélie penguins across Antarctica for millions of years. The geologic record tells us that as glaciers expanded and covered Adélie breeding habitats with ice, penguin colonies were abandoned. When the glaciers melted during warming periods, this warming positively affected the Adélie penguins, allowing them to return to their rocky breeding grounds. But now, University of Delaware scientists and colleagues report that this beneficial warming may have reached its tipping point. In a paper published today in *Scientific Reports*, the researchers project that approximately 30 percent of current Adélie colonies may be in decline by 2060 and approximately 60 percent may be in decline by 2099." This prediction is not right, it is not even wrong, citing W. Pauli

More than half of the penguins will be dead by 2099. In earlier times they benefitted from climate warming, but today heat is threatening to wipe them out. How has this come to be? The press release continues:

It is only in recent decades that we know Adélie penguins population declines are associated with warming, which suggests that many regions of Antarctica have warmed too much and that further warming is no longer positive for the species," said the paper's lead author **Megan Cimino**, who earned her doctoral degree at UD in May." **Antarctica has warmed unusually over the past decades?** This is pseudoscience and is **completely wrong**. **A climate model that notoriously predicts (false) extreme temperatures was used by the PhD students to make their case!!!** Precisely on this subject a new paper by Jones et al. 2016 in *Nature Climate Change* tells us: Observed trends are **not unusual** when compared with Antarctic paleoclimate records of the past **two centuries**. Climate model simulations that include anthropogenic forcing **are not compatible** with the observed trends. This suggests that natural variability likely **overwhelms** the forced response in the observations.

Antarctic Ice Cover for 31,000 years

The Antarctic contribution to sea level is a balance between ice loss along the margin and accumulation in the interior. Accumulation records for the past few decades are noisy and show **inconsistent** relationships with temperature. Relationship between **accumulation and temperature** for the past 31 ka using high-resolution records from the West Antarctic Ice Sheet (WAIS) Divide ice core in West Antarctica. The results suggest that variations in atmospheric circulation are an important driver of Antarctic accumulation but they are **not adequately captured** in model simulations. Model-based projections of future Antarctic accumulation, and its impact on sea level, should be treated **with caution**.

NASA Report: Sea Level Rise 1880-1980

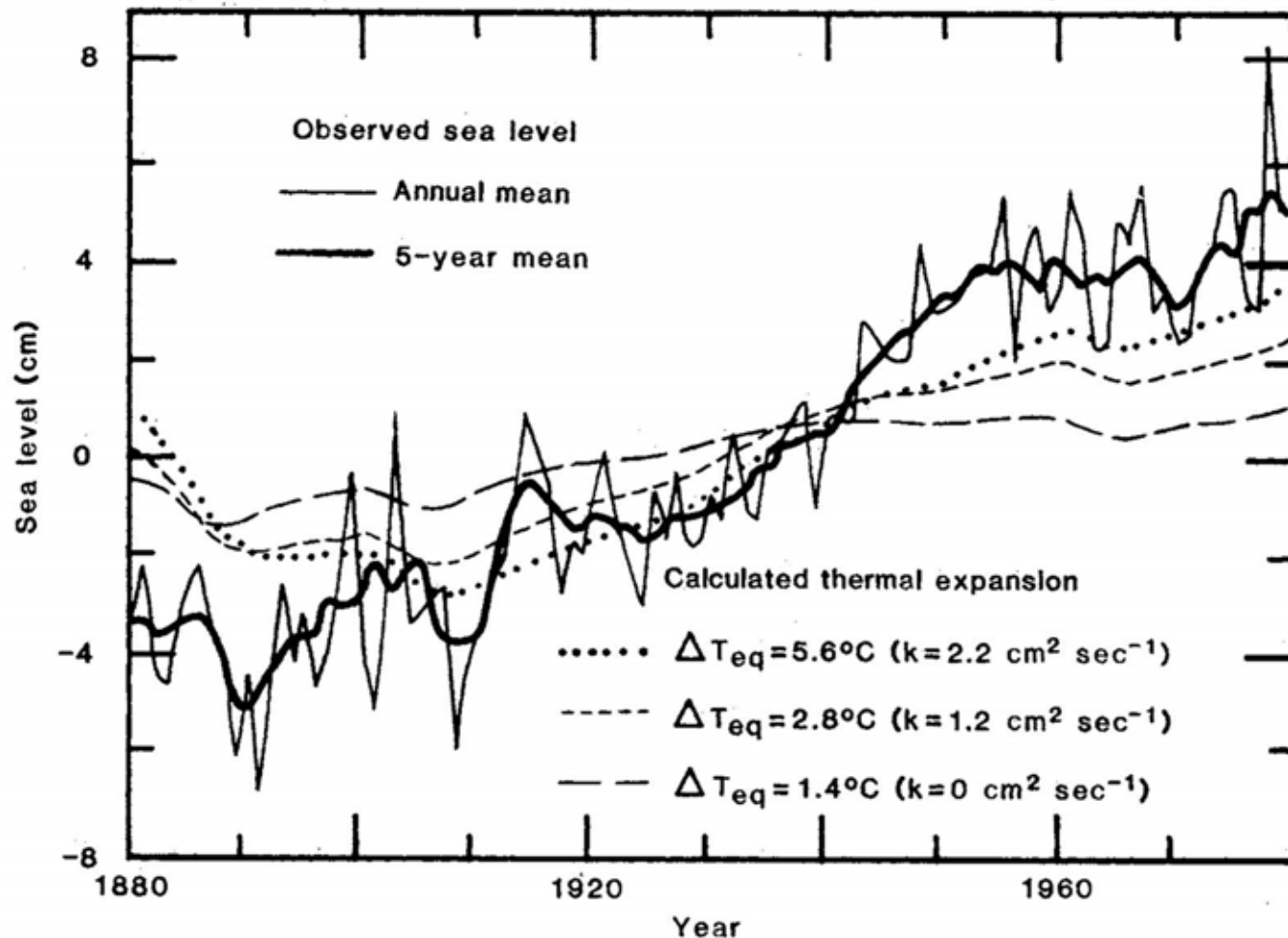


Fig. 2. Global mean sea level trend from tide-gauge data and comparison to the thermal expansion of the upper ocean obtained from the model of Hansen *et al.* (13) (see their equation 9 for the heat flux into the ocean). The radiative forcing used was CO_2 + volcanoes + sun [figure 5 in (13)], but a similar result would be obtained for other forcings that fit the observed global temperature trend; ΔT_{eq} is the equilibrium sensitivity of the model for doubled CO_2 , and k is the diffusion coefficient beneath the mixed layer.

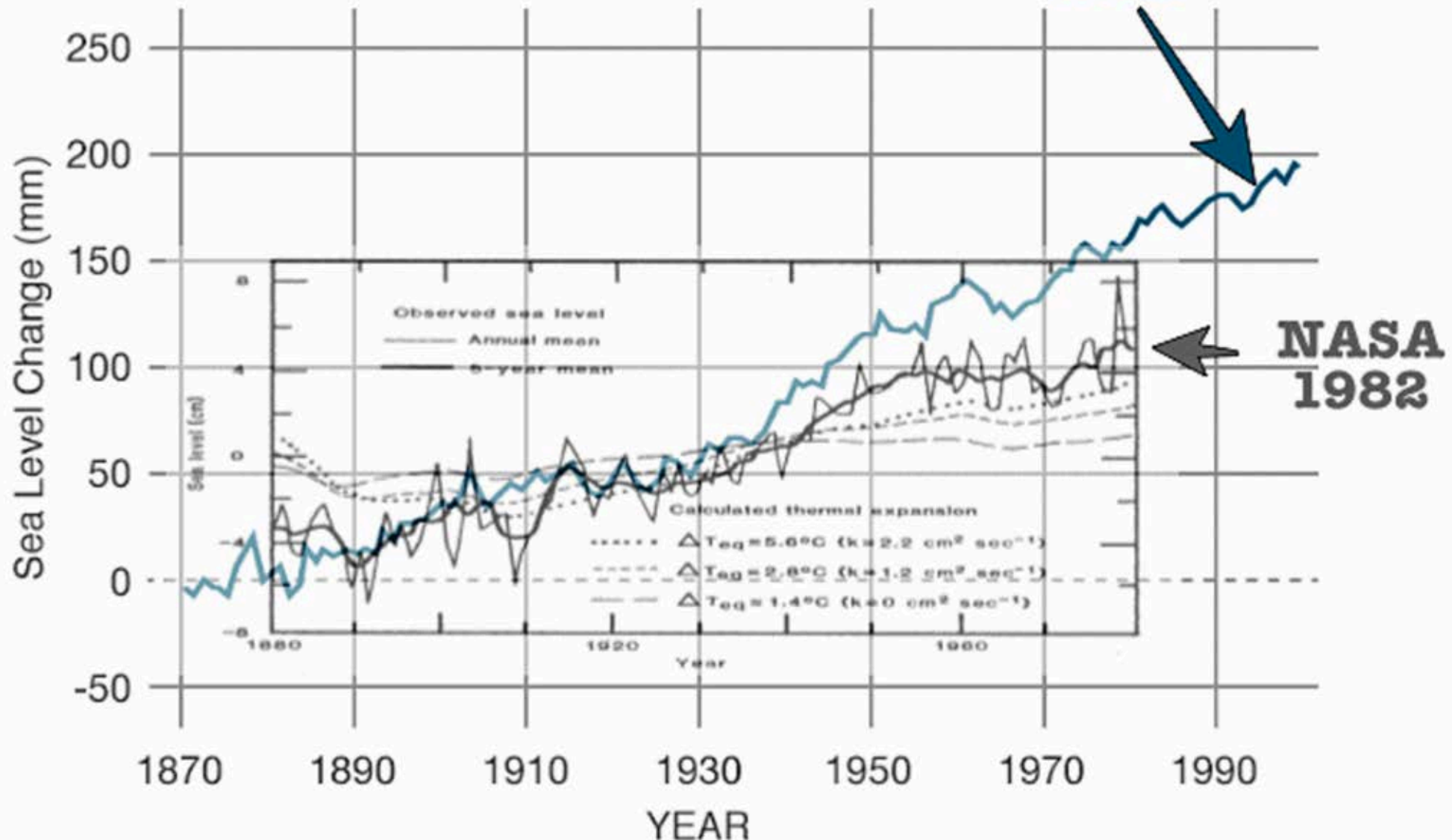
NASA Reconstructed Sea Level Rise 1870-2016

The same data, after 34 years, were re-interpreted by new NASA staff, and are now leading to substantially higher sea level rise - without any scientific basis

Data source: Coastal tide gauge records.

Credit: CSIRO

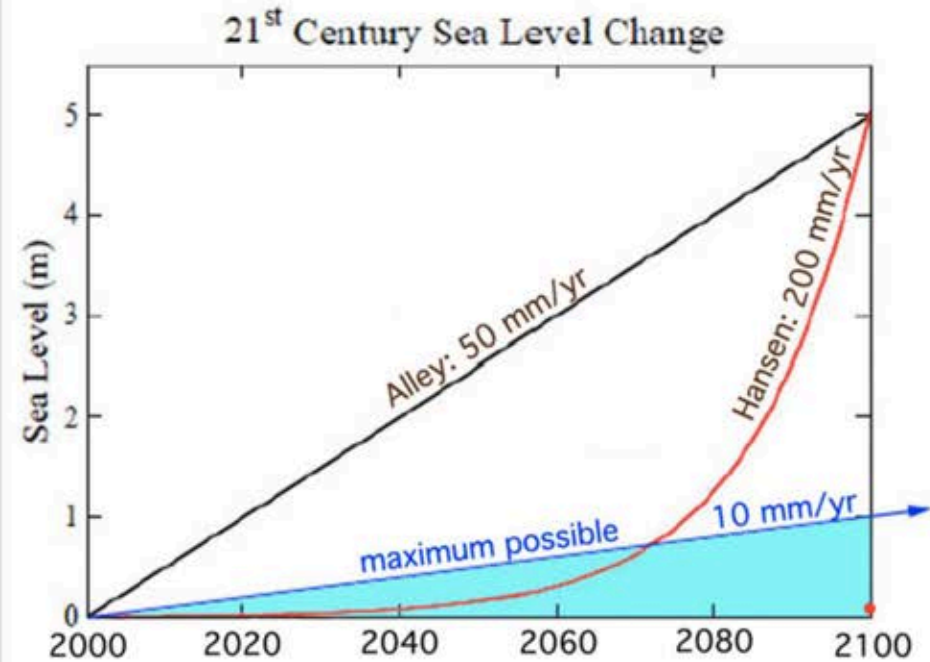
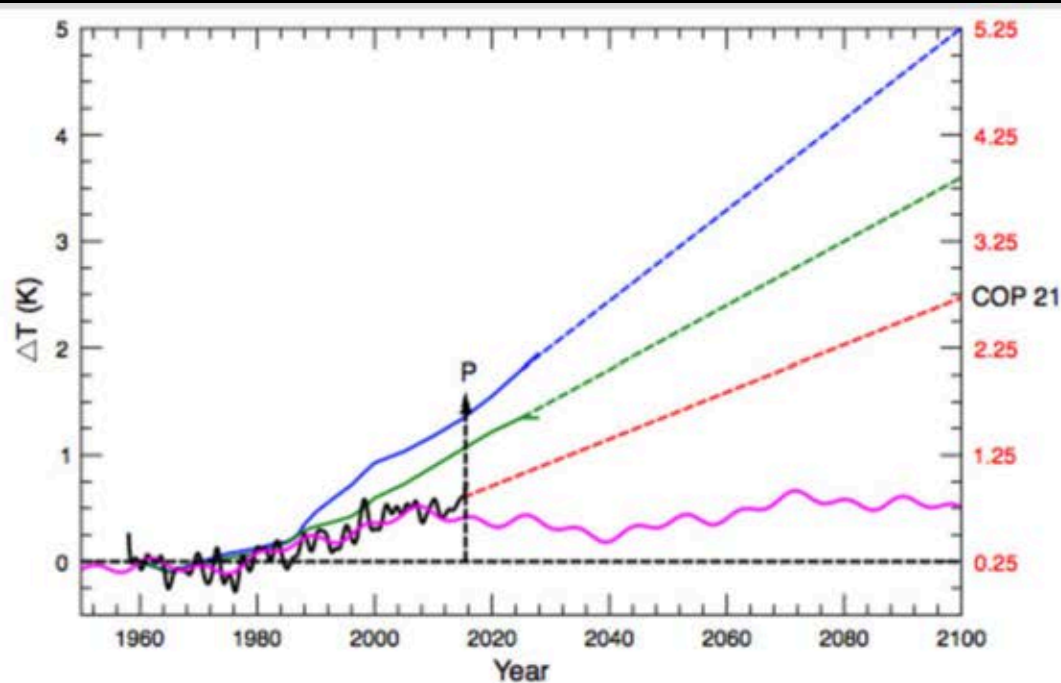
**NASA/CSIRO
2016**



- A posting at *Real Climate Science* shows the Arctic sea ice today is about the same thickness as it was 75 years ago.
- In the 1940 *Townsville Daily Bulletin* "ice measurements are reported having an average of only 6 ½ feet," according to a just-returned expedition of Soviet explorers.
- Then, alongside a posting of a New York Times image stating the ice was "only about seven feet thick" in 1958, it was written that sea ice was "about two meters thick" then.
- Read more at <http://www.wnd.com/2017/01/report-on-arctic-sea-ice-unleashes-shock-waves/#FluZtix40DhUEE5f.99>
- Read more at <http://www.wnd.com/2017/01/report-on-arctic-sea-ice-unleashes-shock-waves/#ChXbilgYbZs1MjKv.99>

Sea Level Rise 1950-2100

Nils Axel Mörner

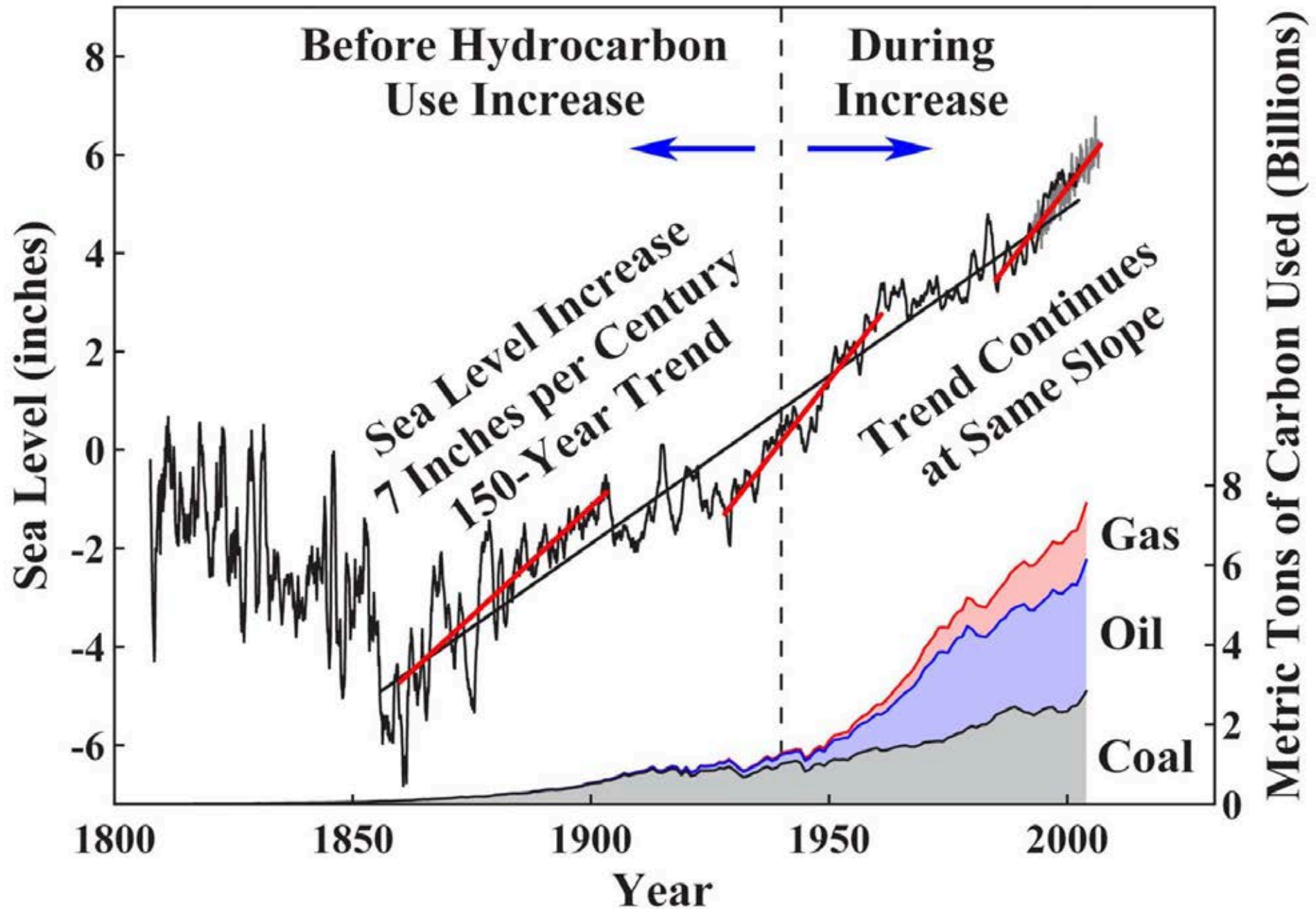


Real data: Observed from satellites: about 3.2-3.3 mm/year,
Measured values (gauges) from Army Corps of Engineers WES,
Vicksburg, MS. agree with satellite data

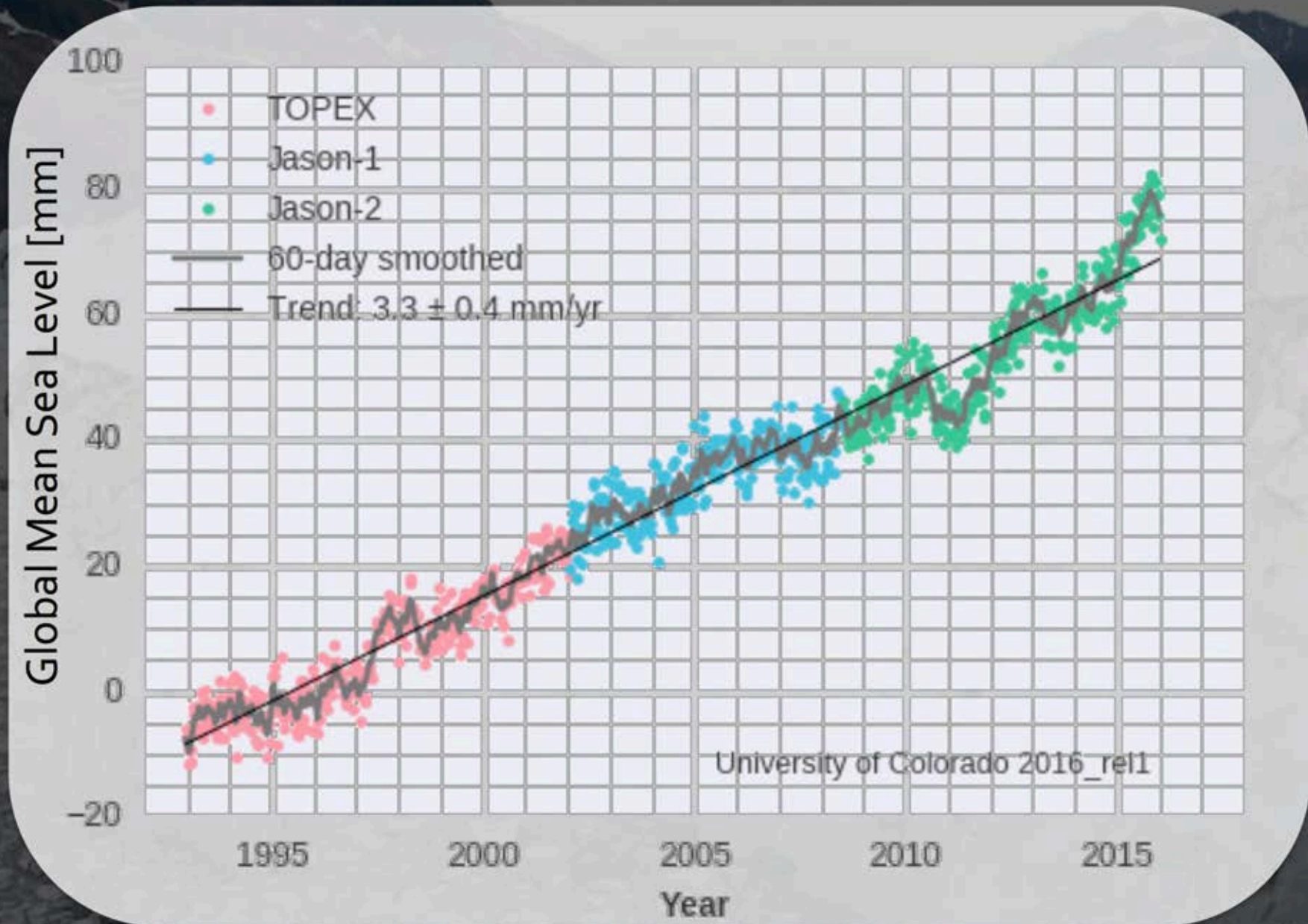
Sea Level Rise satellite measurements Dec 2016

With imagery and data from Landsat 8, a joint mission of NASA and the U.S. Geological Survey is providing a near-real-time view of every large glacier and ice sheet on Earth. The NASA-funded Global Land Ice Velocity Extraction project, called GoLIVE, is a collaboration between scientists from the University of Colorado, the University of Alaska, and NASA's Jet Propulsion Laboratory in Pasadena, California, website should be available in spring 2017.

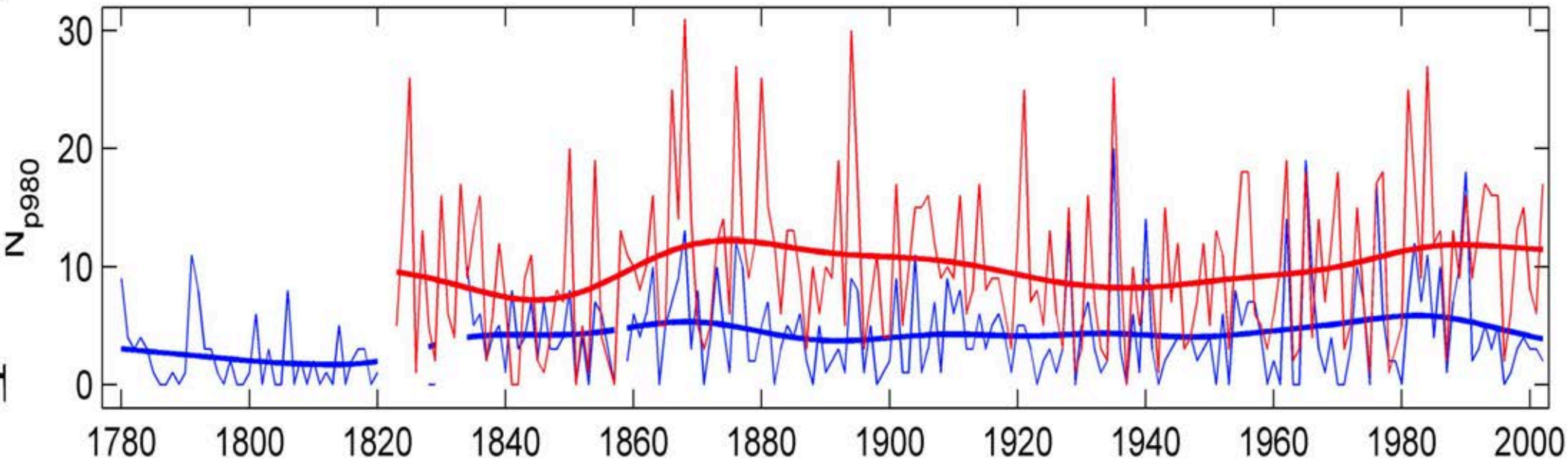
Sea Level Rise from 1800-2007, ref. 1



Sea level rise by **satellite** measurements: 1993-2016
about 3.3 mm/year, that is, **roughly 30 cm per 100 years**

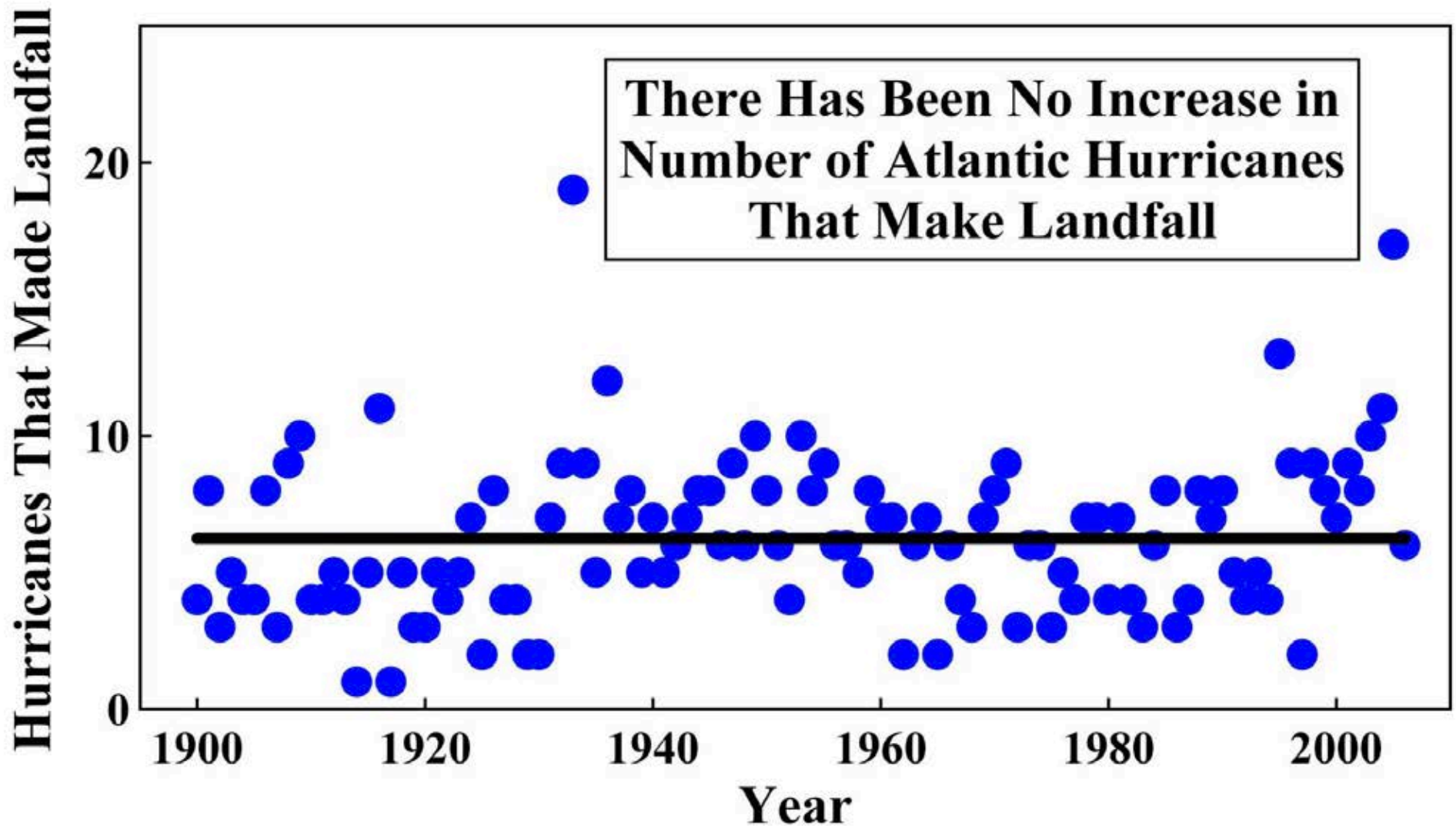


Tornadoes and Hurricanes H. von Storch

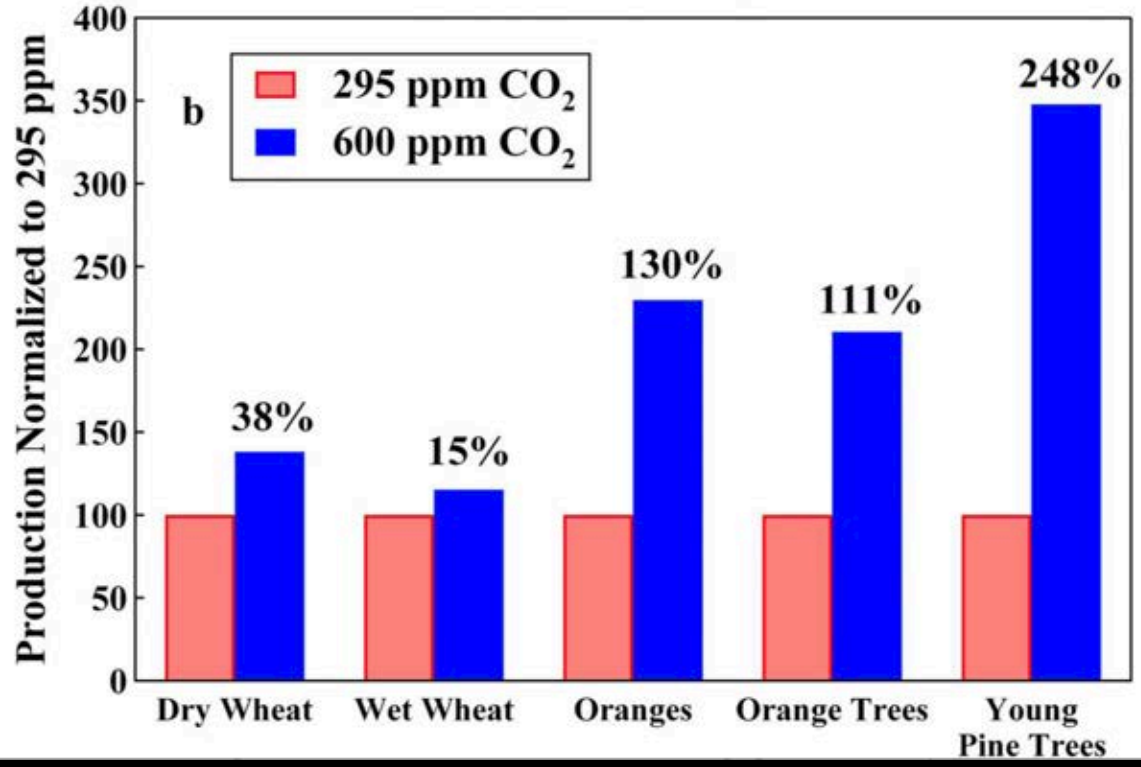
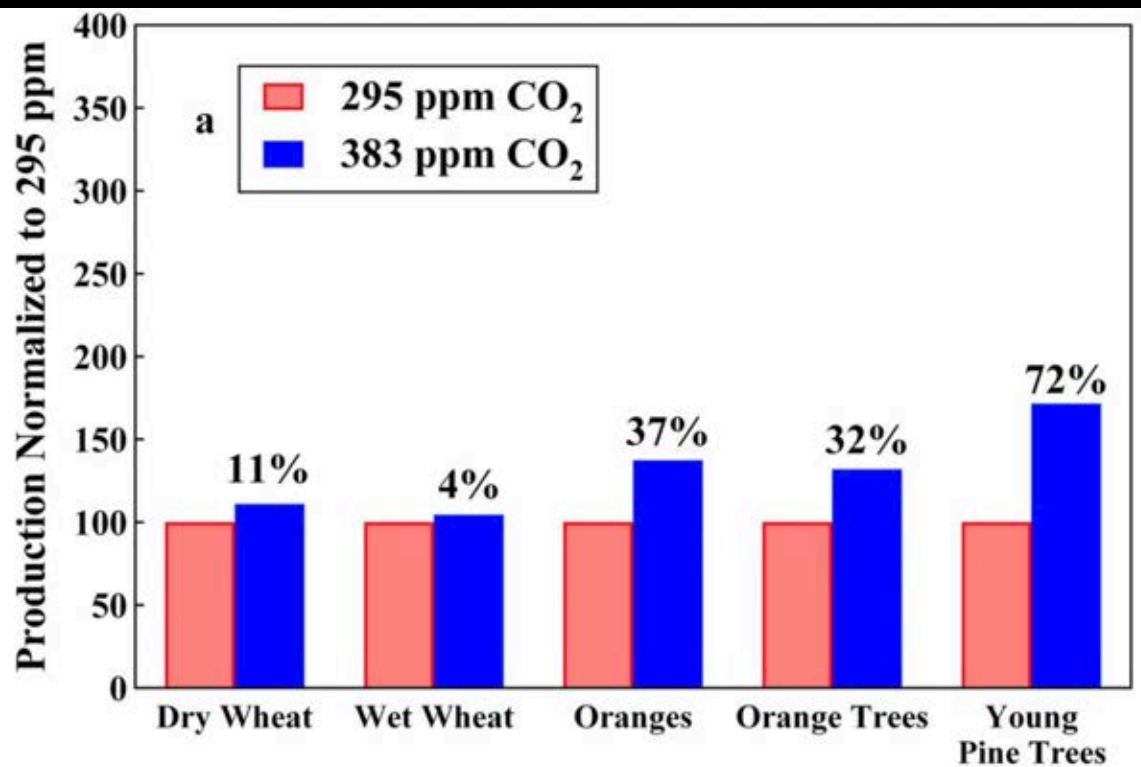


Tornados and Hurricanes, ref. 1

agreement with the data by H. von Storch



Measured Plant Growth
versus
CO₂ level
statement by
Prof. Reicholf
warmer times
are
good times
for humanity (ref.1)



COUNTERMEASURES

Guaranteed *meaningless* UN treaties for the climate, but devastating to the western taxpayer whose money is transferred to foreign countries :

On the 22nd of April 2016, representatives from about 170 nations officially signed the Paris Climate Convention for global decarbonisation at the United Nations in New York.

It simply is a document of the scientifically ignorant; ideology replaces measured data and scientific facts.

From Paris-based Société de Calcul Mathématique SA - in a paper published September 2015

"There is not a single fact, figure...[or] observation that leads us to conclude the world's climate is in any way 'disturbed,'" the paper states. "It is variable, as it has always been. ... Modern methods are far from being able to accurately measure the planet's overall temperature even today, so measurements made 50 or 100 years ago are even less reliable."

CONCLUSIONS
OUTLOOK

Any countermeasures to curb CO₂ emissions are totally useless!
This is guaranteed! CO₂ output will increase further
BRD promised 1% reduction per year 8 million tons 2005-2020
resulting change in $T < 5 \times 10^{-4} \text{ C}$!NONSENSE!

1. Global temperature has risen MODERATELY from 1900 - 2016 by about 0.8 C plus/minus 0.1 C.

Based on measured data the current best estimate (most probable value) is:

0.25-0.30 C may be anthropogenic

0.50-0.55 C is supposed to come from the

Sun's activity (TSI, planets) + cosmic radiation, and also from the oceans (el Nino)

Higher temperatures also have been observed on both Mars and one of the moons of Saturn.

2. CO₂ level has risen from about 270 ppm and is now at 406 ppm (2017)-no effect

The breathing humanity produces about 3 billion tons of CO₂ per year, twice as much as all cars on Earth!

HUMANITY PERFORMED A MAJOR LONGTERM EXPERIMENT

1999-2016 about 550 billion tons of CO₂ were released to the atmosphere: but global T = constant !!!

System Earth did NOT respond to this amount of CO₂ emission.

Hence the envisaged CO₂ reductions cannot have any measurable effect!

Sea Level rise and Global Climate Change

3. Sea level rise is about 2.5 - 3.2 mm per year or about 25-30 cm per 100 years and has been constant for more than 150 years.

There is no observed increase because of anthropogenic CO₂

4. Acidification of sea water does not occur, ph = 8.1 down from 8.18 — no effect

5. No increase in hurricanes or tornados could be observed.

6. Instead, a decrease of the average wind speed over the Atlantic has been observed.

7. Glaciers lengths are shortening since about 1860, but in the medieval and Roman warm periods they were virtually nonexistent.

The End

As of January 2017 there exist NO measured or observed long term data that can justify the scenario of a global climate catastrophe!

Beneficial Effects of Global Warming

6. **Environmental greening**: because of rising CO₂ content, global greening occurs, e.g. the Sahara has gained about 300,000 sqkm of greenland
7. **More species**: Prof. Reichholf: global experiment: heat island effect in megacities 2 C warmer: biodiversity is thriving! Warmer times are better for both flora and fauna.
8. **Record harvests**. Plant efficiency increases with increasing CO₂ level.

Mission Impossible: Unstoppable CO₂ Level

2016: Breathing humanity alone now generates 3 billion or 3,000 million tons of CO₂ / year. Compare this to the total CO₂ emission of all cars on Earth which is about 1.5 billion tons/year or 1,500 million tons/year. Car emissions (CO₂) are not important, but promise to be good business, ripping off customers.

In order to survive, every human generates about (minimum) 4 tons of CO₂ /year, that is, the population increase since 1950 causes additional 22 billion or 22,000 million tons CO₂/year.

Each year: population explosion is adding 300-400 million tons /year more of CO₂

What does this mean for the CO₂ output: **UNSTOPPABLE CO₂**

CO₂ is NOT the climate killer but the life gas for planet Earth!

As of 2017 western countries do not control CO₂ emissions anymore.
Developing countries are emitting about 75% of worldwide CO₂!

World Population Explosion

1950: 2.0 Billion or 2,000 million people on Earth:

1933: 233 million Chinese, 1947 350 million Indians, 1950 Africa 254 million,
1950 Pakistan 39 million

2016: 7.5 Billion or 7,500 million people on Earth:

Main source of population growth:

2016: 1,415 million Chinese, 1,280 million Indians, Africa 1,234 million, 197 million Pakistan
(muslim countries 1,700 million) , western countries NO increase

About 80 - 90 million additional people per year,

from Africa about 30 million/year

In 15 years Africa alone produces the population of all European countries

World Population Explosion (some very dire)

Consequences

the population growth of 5.5 billion people since the 1950s causes (as of 2017) the **additional** emission of approximately 22 billion tons of CO₂ per year

the yearly population growth on Earth by far exceeds all possible CO₂ savings

it puts an enormous pressure on the land and changes the local climate that,

in turn, is claimed to be an effect of global climate change, and is used for

unsubstantiated claims to be recompensed by the industrial countries

it also destroys the local flora and fauna, exhausts drinking water,

and causes large scale erosion of the farmland etc. etc.

Because of political correctness these problems are not addressed!

REFERENCES

Note: Publications from people involved in the Climategate affair and activities such as data tampering, mobbing scientists of different opinions, pressuring PhD students etc. are not cited, because they are not honest scientists any more, that is, they fall in the category of **Deutsche Klimaphysik**.

Al Gore is not worthy to be noted. His film *An Inconvenient Truth* simply is the *convenient lie* of a failed politician. He and his Hollywood pals do not care about scientific truth, nor are they interested in facts. Their entirely fictitious claims are only meant to create fear by misleading the public, and to subsequently cash in on the resulting climate business, i.e., harvesting the taxpayer's money. Al Gore's recent *An Inconvenient Sequel* is just a continuation — the truth content is exactly zero.

Also, beware of the presentations in the public media. For instance, Bill Nye of CNN, claims to be a science guy. He is not, his science facts often are incorrect or distorted by bias. Same: Germany's mainstream press!

See also the earlier slides citing the statements of Dr. E. Zorita, Institute of Coastal Science, HFG, D and Prof. J. Curry, Georgia Tech., U.S.A. Most prominent victims that were mobbed are Prof. N. Shaviv, Israel, Prof. J. Veizer, former Univ. of Bochum (now Univ. of Ottawa), and, in particular, Prof. H. Svensmark, DK. Most recently Prof. Kirstein, Univ. of Leipzig became a victim. However, there are many more cases.

This is only very small list of the large number of climate publications.

1. A. B. ROBINSON, *Environmental Effects of Increased Atmospheric Carbon Dioxide*, Oregon Inst, of Science and Medicine, 2007.
2. *Assessment Report: Climate Change 2013: The Physical Science Basis, Snow, Water, Ice and Permafrost in the Arctic (SWIPA) 2011, Arctic Monitoring and Assessment;*
3. *Programme (AMAP) relationship between accumulation and temperature in West Antarctica for the past 31,000 years*, by T. J. Fudge et al., Geophysical Research Letters, 28 April 2016
4. *Scientific American: is deteriorating fast toward Unscientific American.*

5. **Wikipedia does not seem to be a reliable scientific source anymore with regard to Climate Change, because it is dominated by climate activists.**

Recommended literature:

6. Lüdecke, H.-J: **CO₂ und Klimaschutz, Bouvier, Bonn, 2010.**

7. Muller, R. A.: **Energy for Future Presidents, W. W. Norton, 2012.**

8. Lüdecke, H.-J: **Energie und Klima, expert verlag, 2016.**

9. Website Dr. R. Spencer, UAH.

10. Scafetta, N., B. West: **Physics Today, 2009.**

11. Scafetta, N., A. Mazzarella: **Coherence between climate oscillations and the M ± 7 earthquake historical worldwide record between climate oscillations and the M ± 7 earthquake historical worldwide record , J. Natural Hazards, Springer 2015, 76:1807–1829.**

12. Yndestad, H., J.-E. Solheim: **Influence of solar system oscillation on the variability of the total solar irradiance, New Astronomy, Volume 51, February 2017, Pages 135–152, Elsevier.**

13. **EIKE for German and English speaking people provides a comprehensive list of topics with many links.**

14. **The blog by N. Shaviv <http://www.sciencebits.com/> contains most valuable information, containing many explanations on the Sun's impact on the climate on Earth.**