

ENVIRONMENTAL ENGINEERING NEWSLETTER

14 OCT. 2013

Please be aware any Newsletter URL ending in **020701.pdf** and **020610.pdf** are available for downloading only during the six days following the date of the edition. If you need older URLs contact George at ghh@att.net.

Please Note: This newsletter contains articles that offer differing points of view regarding climate change, energy and other environmental issues. Any opinions expressed in this publication are the responses of the readers alone and do not represent the positions of the Environmental Engineering Division or the ASME.

George Holliday

This week's edition includes:

1) ENVIRONMENT – A. CARBON MANAGEMENT TECHNOLOGY CONFERENCE 2013

October 21-23, 2013

Hilton Alexandria Old Town Alexandria, VA

This foundational conference, sponsored by the eight major engineering societies (ASME, AIChE, IEEE, ASCE, TMS, SME, SPE and AIST), draws practiced professionals from all engineering disciplines to share their expertise and provide perspective on the reduction of greenhouse gas emissions and adaptation to changing climate. The conference will focus on engineering perspectives regarding technologies, strategies, policies, management systems, uncertainties, and metrics for evaluating alternatives. Gain engineering expertise, experience and perspectives on technologies, strategies, policies, management systems, metrics, and other key issues. Discover novel approaches and new technologies that are instrumental to technical, economic and social advancements in carbon management.

Through robust scheduled sessions, well-known speakers from leading companies and academic institutions, co-located workshops, and networking opportunities, this year's program will address 20+ topics under these four themes:

- Carbon Capture, Utilization and Storage
- Carbon Management Pathways from Electricity Generation to End User
- Potentially Game-Changing Technology and Evaluation
- Engineering Challenges and Solutions for Adaptation to Climate Change

To view the technical program, visit <http://fscarbonmanagement.org/content/technical-program>
Register today and be part of the one conference focused on the engineering perspectives critical to meeting the challenge of greenhouse gas emissions.

For more information or to register, please visit us at

<http://fscarbonmanagement.org/content/cmtc-2013>

Arnold Feldman

B. ASME IS DEVELOPING AN ASME ENERGY FORUM



san diego convention center

San Diego, Ca, USA

March 17-19 2014



Executive Advisory Committee:

The Executive Advisory Committee for ASME Energy Forum Live – Oil & Gas includes senior members from Shell Exploration & Production, Draper Laboratory/Cambridge Research and Technology LLC, Baker Hughes, Stewart & Stevenson, BP Exploration, and ASME.

Doreen Chin, Co-Chair

Shell Exploration & Production Co.

Martin Rylance, Co-Chair

BP

Julio Guerrero

Draper Laboratory, Cambridge Research and Technology L.L.C.

Satya Gupta

Baker Hughes Pressure Pumping

Rustom Mody

Baker Hughes, Inc.

Jared Oehring

Stewart & Stevenson

Raj Manchanda

ASME

Program Committee:

Phil Grossweiler, Program Committee Chair M&H

Blake Burnette, Poster Committee Chair

Baker Hughes Pressure Pumping

David Paradis Weir Oil and Gas Pressure Pumping

Arnold Feldman

C. EED MEETING ANNOUNCEMENT

The Environmental Engineering Division (EED) is planning two meetings for all its members who are able to attend, one on the East Coast and one on the West Coast.

The East Coast meeting will be held in conjunction with the Carbon Management Technology Conference (CMTc), which will take place at the Hilton Alexandria Old Town in Alexandria, VA, October 21-23. The EED meeting will be held the afternoon of **Tuesday, October 22, from 1PM -4PM.**

The West Coast meeting will be held during IMECE 2013 in San Diego, CA, November 15-21. The specific date and time have not yet been set.

At both meetings, we will discuss the recent EED member survey, the revised Division By-Laws, and interest in forming and participating in new technical committees identified as being of interest in the survey. EED members who wish to attend the Division meeting will not be required to register for either conference, although there are certainly benefits to attending these conferences if you are able.

The call-in information for the East Coast meeting in conjunction with CMTc is:

Phone: 1-866-359-4571

Code: 811 047 1915

For more information on the EED meetings contact:

- East Coast: Arnie Feldman, EED ViceChair, 267-880-2325, jjdsenv@att.net
- West Coast: Andy Miller, EED Chair, 213-244-1809, Miller.Andy@epa.gov

D. WORKSHOP AT CMTc 2013

You are invited to participate in a workshop titled *CCS/CCUS Overview: What It Is and What Are Its Implications?* The workshop is sponsored by the Global CCS Institute in collaboration with the 2013 Carbon Management Technology Conference. It will be held at the Hilton Alexandria Old Town in Alexandria, VA on Sunday, October 20, 2013, and is geared to individuals who are involved in carbon dioxide management but who may not be an expert in all aspects.

Registration for this workshop is free: <https://chenected.wufoo.com/forms/registration-ccscus-overview-workshop/> and a networking reception will be held for all attendees after the completion of the workshop. For those who wish to further enhance their knowledge of carbon management we encourage you to also attend the Carbon Management Technology Conference (CMTc 2013), sponsored by AIChE, ASME, ASCE, IEEE, AIST, SPE, TMS, and SME which

begins on Monday October 21. For more information visit the website:
<http://www.fscarbonmanagement.org/content/cmtc-2013>

D. FEDS TO RELEASE NEW RULES FOR OFFSHORE EMERGENCY EQUIPMENT THIS YEAR

The nation's top offshore drilling regulator said he hopes to unveil new requirements for blowout preventers by Dec. 31, nearly four years after [the Deepwater Horizon disaster revealed vulnerabilities in the emergency devices](#).

The hulking devices sit atop wells and can be activated in an emergency to cut drill pipe and block off the hole, trapping oil and gas inside. But a forensic investigation of the blowout preventer used at BP's failed Macondo well concluded that a powerful rush of oil and gas caused drill pipe to buckle and shift, ultimately preventing powerful shearing rams on the device from cutting the pipe and sealing the hole.

<http://fuelfix.com/blog/2013/09/30/feds-to-release-new-rules-for-offshore-emergency-equipment-this-year/>

2) HEALTH – NOTING OF INTEREST

3) SAFETY – A. COMPRESSED AIR

The pictures show the consequences of three explosions resulting from failure during pneumatic pressure testing of pipes and vessels.

<http://www.eandp-environment.net/Safety/Safety020701.pdf>

4. TRANSPORTATION – NOTHING OF INTEREST

COMMENTS:

A. THE WEEK THAT WAS: 2013-10-05(OCT. 05, 2013)

By Ken Haapala, Executive Vice President, Science and Environmental Policy Project (SEPP)

IPCC: The UN Intergovernmental Panel on Climate Change (IPCC) released its Fifth Assessment Report (AR5) of Working Group I (WGI), providing an assessment of the of the physical science: *Final Draft Underlying Scientific-Technical Assessment*. The report states that it has been accepted by WGI, but not approved in detail. The publically available report also carries the strange statement: "Confidential –This document is being made available in preparation of WGI-12 only and should not be cited, quoted, or distributed." If the IPCC wishes it to be confidential, why does it place it on the web? The final, final report is expected out in January 2014. Given the history of the IPCC, we may see some major changes.

Also, the final version of the IPCC Summary for Policymakers (SPM) is not yet available, making a focused comparison between the IPCC (SPM) and the Summary for Policymakers by the Nongovernmental International Panel on Climate Change (NIPCC) somewhat premature.

The IPCC reports have been intensely analyzed by a number of IPCC followers, with comments posted on various blogs as well as in the traditional press. These comments will provide the bulk of this issue of TWTW.

Extreme Weather Events: First, the good news, at least for now. Roger Pielke Jr. reports that the critical chapter in AR5 does not support claims of more extreme weather events. He presents a list of statements he compiled from the key Chapter 2 of AR5. Pielke concludes: "Of course, I have no doubts that claims will still be made associating floods, drought, hurricanes and tornadoes with human-caused climate change --Zombie science --but I am declaring victory in this debate."

The term Zombie Science may be less than complementary, but is appropriate for those who continue to reiterate future disasters from global warming without providing physical evidence of human emissions of carbon dioxide (CO₂) are causing dangerous global warming or that global warming will increase the intensity of extreme weather events. Since some politicians and governments have invested so heavily on proclaiming humans are causing extreme weather events, it will be interesting if this section survives the final revision. The SPM indicates that it may not.

No doubt, the EPA will use the statement that AR5 should not be cited, quoted, or distributed as grounds for rejecting its use in the upcoming public hearings on its new rules for power plants which embody a huge, questionable danger from human caused global warming. Please see links under IPCC report.

IPCC Games: Almost immediately after the public distribution of AR5 by the IPCC, Steve McIntyre posted a clear example of why the IPCC cannot be trusted to maintain consistency from one draft to another draft, or explain why changes were made. The Second Order Draft, which went to expert reviewers, contained a graph that clearly showed the discrepancies between projections of temperatures in prior IPCC assessment reports and observed temperatures. The observed surface temperatures were, correctly, below the projected envelope of temperatures from earlier reports. In the current AR5, the observed temperatures are within the projected envelope by the models.

Going through the messy new graph, McIntyre shows how, after expert review, the IPCC reconstructed the earlier projections to shift the envelope downward relative to the observations, thus incorporating the observations within the re-interpreted projections. McIntyre compares this to the classic shell game of picking under which shell the pea is hiding. It is a further example of the IPCC's continued abuse of the peer review system and how the IPCC changes the past. Please see link under Climategate Continued.

IPCC Version of Climate History: Writing in Watts Up With That?, geologist Don Easterbrook states: "When compared to the also recently published NIPCC (Nongovernmental International Panel on Climate Change) 1000+-page volume of data on climate change with thousands of peer-reviewed references, the inescapable conclusion is that the IPCC report must be considered the grossest misrepresentation of data ever published."

A key IPCC statement is that: "Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia." Easterbrook compares this statement with the temperature data for the 10 years, the last 500 years, the last 2000 years, the last 10,000 years, and the last 15,000 years. Easterbrook finds that more intense

warming “has occurred many times in the past centuries and millennia.” Easterbrook goes on to expose other factually challenged statements in the AR5. Please see link under Climategate Continued.

An Elephant in the Room: Writing in the *Mail*, UK, David Rose reports that, on September 27, he attended an IPCC press conference in Stockholm on the new SPM. He asked: “why the climate computer models failed to predict the continuing 17 year pause in global warming –and how much longer would this have to last before the IPCC thought the models might be wrong?” Rose reports that Michel Jarraud, the secretary general of the World Meteorological Organization, one of the two parent organizations of the IPCC replied: “Your question is what I would call ill posed from a scientific point of view. The models are proving more and more remarkable at predicting the long-term trend.”

According to Rose, Thomas Stocker, co-chair of WGI, added “if it lasted another 20 years, ‘that would not be expected’, and that climate trends should not be considered in periods of less than 30 years.” The leadership of the IPCC refuses to clutter their beautiful models and theory with messy data. See link under Questioning the Orthodoxy

The Second Elephant in the Room: The IPCC ignores the second, larger elephant in the room. Over 33 years of satellite data that are compiled by two independent groups and separately supported by four sets of balloon data. These temperature data are comprehensive globally, except at the poles. They show a pronounced warming over the northern part of the Northern Hemisphere, little or no warming over the Tropics or the Southern Hemisphere and a cooling around Antarctica. The global warming models are inconsistent with these data. For some reason, one-third global warming does not sound compelling.

Instead of addressing these inconsistencies, the IPCC glosses over them. The SPM states: “It is *virtually certain* that globally the troposphere has warmed since the mid-20th century. More complete observations allow greater confidence in estimates of tropospheric temperature changes in the extra tropical Northern Hemisphere than elsewhere. There is *medium confidence* in the rate of warming and its vertical structure in the Northern Hemisphere extra-tropical troposphere and *low confidence* elsewhere.”

In other words, the IPCC has great confidence in the part of the dataset that supports its theories and models, and no confidence in the part that does not. Such is the selective science of the IPCC.

By comparison, in its Summary for Policymakers, the NIPCC report specifically discusses the lack of a hot spot over the Tropics and the failure of the atmosphere above Antarctic to warm, as suggested by the models and greenhouse theory. Further, NIPCC suggests that the pronounced warming of the northern part of the Northern Hemisphere may be due to northerly transport of heat by the atmosphere and oceans and that this transport may be driven by changes in the Sun’s magnetic activity, which the IPCC report does not consider. The links can be found under NIPCC Report, IPCC Report, Questioning the Orthodoxy, and Models v. Observations.

Other Posts: There are many excellent posts addressing the shortcomings of the IPCC SPM. Judith Curry has a large number that can be found under different headings, including the suggestion that the IPCC should be put down because it has become an obstacle in the development of climate science. Two very succinct posts are from physicists Nir Shaviv and Tom Quirk.

Presenting what he terms as the most boring graph he ever plotted, Nir Shaviv shows the changes in the projected likely range of climate sensitivity over time. That is our understanding of how sensitive temperatures are to a doubling of carbon dioxide (CO₂). There has been virtually no change in the scientific assessment of this critical calculation over three decades in spite of the expenditures of tens of billions of dollars. [Based on US government reports, SEPP calculates that since FY1993, the US government spent over \$150 Billion on climate change activities of which about \$35 Billion is categorized as climate science.]

Shaviv dismisses the idea that failure to advance knowledge is due to general incompetence of the Climate Establishment. He states: "I think the real reason why there is no improvement in the understanding of climate sensitivity is the following. If you have a theory which is correct, then as progressively more data comes in, the agreement becomes better...However, if the basic premises of a theory are wrong, then there is no improved agreement as more data is collected. In fact, it is usually the opposite that takes place, the disagreement increases. In other words, the above behavior reflects the fact that the IPCC and alike are captives of a wrong conception."

Tom Quirk goes directly to the IPCC's reliance on computer models and the failure of these models to accurately project temperature trends for twenty years. Instead of directly addressing this failure, the IPCC uses ad hoc excuses why the models have failed. Quirk assess and rebuts some of these excuses. Quirk was the source of the Quote of the Week and uses a section from Gulliver's Travels to describe the IPCC efforts. Links can be found under IPCC Report, Challenging the Orthodoxy, Questioning the Orthodoxy, and Seeking a Common Ground.

Interacademy Council: For many, the big message of the IPCC SPM is that: "...the rise in global average temperatures over the past century is unequivocal, and it is 'extremely likely' that more than half of the increase during the past 60 years stems from rising greenhouse-gas emissions."

As discussed in September 21 TWTW, in reviewing the last IPCC report, The Interacademy Council specifically addressed the abuse in assigning quantitative probabilities (including confidence levels) by the IPCC. The Council stated that subjective probabilities should not be assigned to ill-defined outcomes, and quantitative probabilities (a likelihood scale) should be used to describe the probability of well-defined outcomes only when there is sufficient evidence. The IPCC presents no physical evidence substantiating it is "extremely likely" that more than half of the increase during the past 60 years stems from rising greenhouse-gas emissions or a rigorous method of calculating the 95 to 100% probability that the term extremely likely embodies. Clearly, the IPCC does not have a high regard for the Interacademy Council. The quote is from the Christian Science Monitor linked under Defending the Orthodoxy.

<http://www.sepp.org/the-week-that-was.cfm>

B. CLIMATE OF UNCERTAINTY

A U.N. report can't explain the hiatus in global warming.

Between 1998 and 2012 the global economy more than doubled in size—to some \$71 trillion in GDP from \$30 trillion. That's the good news. Over the same period the world pumped more than 100 billion tons of carbon dioxide into the atmosphere. That is supposedly the bad news. Yet global surface temperatures have remained essentially flat. That's the mystery: If emitting CO₂ into the atmosphere causes global warming, why hasn't the globe been warming?

That's the question we would have liked to see answered by the U.N. Intergovernmental Panel on Climate Change (IPCC), which Friday published the summary of its fifth report on what co-chairman Thomas Stocker calls "the greatest challenge of our times." It would have also been nice to see some humility from the IPCC, which since its last report in 2007 has seen some of its leading scientists exposed as bullies, and some of its most eye-catching predictions debunked. (Remember the vanishing Himalayan glaciers?)

No such luck. "Warming of the climate system is unequivocal," insists the report in its first bold-face conclusion, followed by the claim that "each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850." What follows are warnings of shrinking ice sheets, rapidly rising sea levels and other scary events.

So what about the warming that *hasn't* been happening since 1998? Here's the key paragraph, buried on page 10: "The observed reduction in surface warming trend over the period 1998-2012 as compared to the period 1951-2012, is due in roughly equal measure to a reduced trend in radiative forcing and a cooling contribution from internal variability, which includes a possible redistribution of heat within the ocean."

After noting that scientists have only low or medium confidence in various theories for this reduced warming trend, the report adds that "there may also be a contribution from forcing inadequacies and, in some models, an *overestimate* of the response to increasing greenhouse gas and other anthropogenic forcing." (Our emphasis.)

Translation: Temperatures have been flat for 15 years, nobody can properly explain it (though there are some theories), and the IPCC doesn't want to spend much time doing so because it is politically inconvenient and shows that the computer models on which all climate-change predictions depend remain unreliable.

Though the IPCC doesn't admit it, the real lesson of its report is uncertainty. Droughts and hurricanes? Contrary to Al Gore's hype, the report acknowledges there's little evidence to suggest that climate change caused by man has had much to do with the duration of droughts or the intensity of hurricanes, although it might in the far future.

Unbearable heat? The IPCC predicts that temperatures are "likely" to rise by somewhat more than 1.5 degrees Celsius throughout the rest of the century. But in 2007 the IPCC said they were "likely" to increase by more than 2 degrees, and "very unlikely" to increase by less than 1.5 degrees.

It's also hard to take any of this as gospel when the IPCC's climate models haven't been able to predict past warming. As Canadian economist and longtime climate student Ross McKittrick points out, IPCC models based on CO2 emissions predicted that temperatures should have risen between 0.2 and 0.9 degrees Celsius since 1990. Instead they have increased by about 0.1 degrees.

One lesson of the IPCC report is that now is the time for policy caution. Let's see if the nonwarming trend continues, in which case the climate models will need remodeling. But that's far less costly than trying to undo grand global redistribution schemes like carbon cap and trade. The other lesson is that amid such uncertainty the best insurance against adverse climate risks is robust economic growth. The wealthier the world is in 50 or 100 years, the more resources and technology it will have to cope if the worst predictions come true. But that requires free-market, pro-growth policies that are the opposite of the statist fixes pushed by the climate alarmists. They use the flimsy intellectual scaffolding of the IPCC report to justify killing the U.S. coal industry and the Keystone XL pipeline, banning natural gas drilling, imposing costly efficiency requirements for automobiles, light bulbs, washing machines and refrigerators, and using scarce

resources to subsidize technologies that even after decades can't compete on their own in the marketplace.

All of these involve giving more economic control to political actors whose interventions make the world poorer than it would otherwise be. When even the climate-change lobbyists at the IPCC concede that the world is warming at a slower pace than they once thought, it's no time for panicky rearranging of the global economy.

A version of this article appeared October 1, 2013, on page A14 in the U.S. edition of The Wall Street Journal, with the headline: Climate of Uncertainty.

C. CLIMATE CHANGE RECONSIDERED: SCIENCE THE U.N. WILL EXCLUDE FROM ITS NEXT CLIMATE REPORT

ED ON SEP 24, 2013

"Climate Change Reconsidered II: Physical Science" -- produced by a team of 40 scientists -- is the newest volume in the Climate Change Reconsidered series produced by The Heartland Institute and members of the Nongovernmental International Panel on Climate Change (NIPCC). As in previous reports, thousands of peer-reviewed articles are cited to determine the current state-of-the-art of climate science. This newest volume's findings challenge the alarmist reports of the United Nations' Intergovernmental Panel on Climate Change (IPCC), whose next report is due out later this month. NIPCC authors paid special attention to contributions that were overlooked by the IPCC or that presented data, discussion, or implications, arguing against the IPCC's claim that dangerous global warming is occurring, or will occur, from human-related greenhouse gas emissions.

<http://www.youtube.com/watch?v=jaVL1Ham-4A&feature=youtu.be>

D. OCEANIC CLOUD DECREASE SINCE 1987 EXPLAINS 1/3 OF OCEAN HEATING

October 3rd, 2013

I consider what follows to be potentially very significant...but also very preliminary.

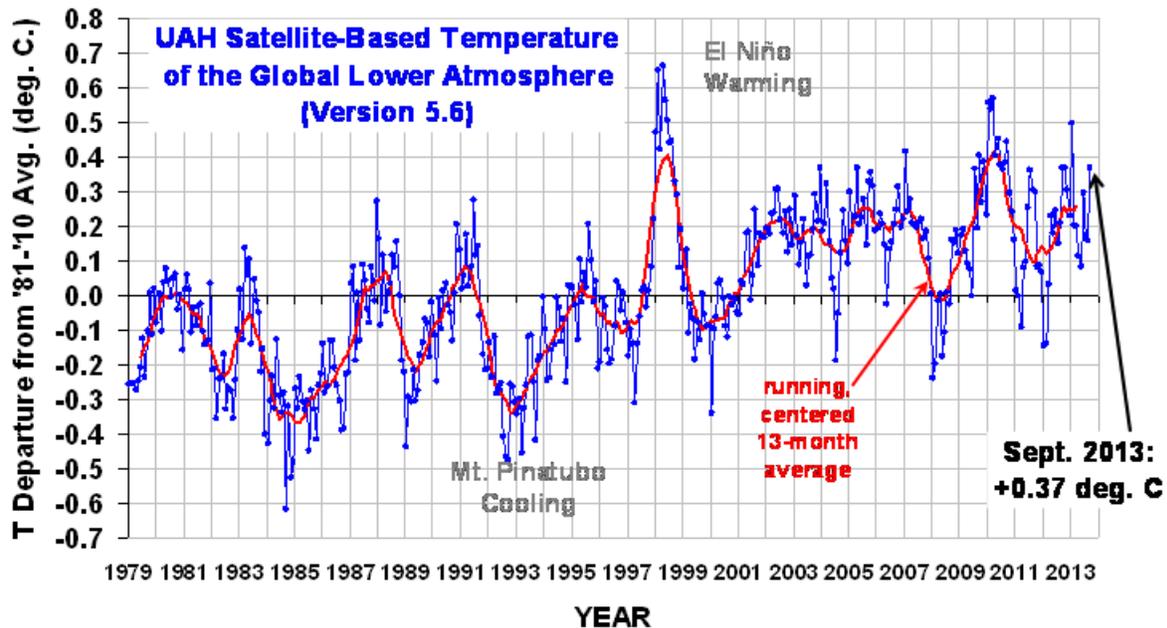
Background

Global warming (including the increase in ocean heat content) is supposedly explained by human greenhouse gas emissions (CO₂) reducing the ability of the Earth to cool through infrared radiation to outer space, leading to the observed warming in the last 50 years or so.

My (admittedly minority) view is that some portion of this heating/warming is due to Mother Nature, probably from natural cycles in low cloud cover changing the amount of sunlight absorbed by the Earth. (Why? Well, take your pick...ENSO, PDO, NAO, cosmic rays, etc.).

<http://www.drroyspencer.com/>

E. LATEST GLOBAL TEMPS



Latest Global Average Tropospheric Temperatures

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 (see [here](#) that represent the piecing together of the temperature data from a total of fourteen instruments flying on different satellites over the years. As of June 2013, the Advanced Microwave Sounding Unit (AMSU-A) flying on NASA's Aqua satellite has been removed from the processing due to spurious warming and replaced by the average of the NOAA-15, NOAA-18, NOAA-19, and Metop-A AMSUs. 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.

<http://www.drroyspencer.com/latest-global-temperatures/>

F. IPCC'S HIGH-IMPACT, LOW-PROBABILITY RISK MEDIA TALKING POINTS

Posted on **October 3, 2013** by **Anthony Watts**

Abrupt Climate Change' may turn out to be an IPCC own goal

Guest essay by Barry Brill

It's one thing to terrify the populace with apocalyptic rhetoric and images of collapsing ice sheets or tsunamis. It's quite another to gain ratification of a treaty obligation imposing huge costs on both the future economy and the individual voters.

The 2015 COP in Paris is scheduled to finalise a climate change treaty which imposes CO₂-mitigation obligations on all 194 member countries. Members have four years to ratify the whole agreement before it supposedly comes into force in 2020.

The process has many aspects of the prisoner's dilemma, in that no country will want to ratify unless it believes others will do likewise. Nobody believes the majority will sign up in the absence of a benefit-cost analysis which can at least make sense to an alarmist.

<http://wattsupwiththat.com/2013/10/03/ipccs-high-impact-low-probability-risk-media-talking-points/#more-95021>

G. IPCC CLIMATE: A PRODUCT OF LIES, DAMN LIES AND STATISTICS BUILT ON INADEQUATE DATA

Posted on **October 2, 2013** by **Guest Blogger**

Guest essay by Dr. Tim Ball

"If you torture the data enough, nature will always confess" – Ronald Coase.

Facts are stubborn things, but statistics are more pliable. – Anonymous.

Climatology is the study of average weather over time or in a region. It is very different than Climate Science, which is the study by specialists of individual components of the complex system that is weather. Each part is usually studied independent of the entire system and even how it interacts or influences the larger system. A supposed link between the parts is the use of statistics. Climatology has suffered from a pronounced form of the average versus the discrete problem from the early 1980s when computer modelers began to dominate the science.

Climatology was doomed to failure from then on, only accelerated by its hijacking for a political agenda. I witnessed a good example early at a conference in Edmonton on Prairie Climate predictions and the implications for agriculture.

<http://wattsupwiththat.com/2013/10/02/ipcc-climate-a-product-of-lies-damn-lies-and-statistics-built-on-inadequate-data/#more-94986>

H. THE CLOUD RADIATIVE EFFECT (CRE)

POSTED ON OCTOBER 3, 2013 BY WILLIS ESCHENBACH

GUEST POST BY WILLIS ESCHENBACH

Figuring that it was about time I did some more scientific shovel-work, I downloaded the full ten-year CERES satellite 1° x 1° radiation dataset (link below). I also got the Reynolds Sea Surface Temperature 1° x 1° dataset, and the GHCN 1° x 1° land dataset. This gave me nominally complete ten-year gridded data for the ten-year period from March 2000 through February 2010 for both the temperature and the radiation.

Among the CERES datasets are the shortwave-, longwave-, and net- cloud radiation effect (CRE). Clouds affect the radiation in a couple of ways. First, clouds reflect sunlight so they have a big cooling effect by cutting the downwelling shortwave radiation. In addition, however, they are basically perfect blackbodies for longwave radiation, so at the same time, they warm the surface by increasing the downwelling longwave radiation. And of course, at any instant, you have the net of the two, which is either a net cooling effect (minus) or a warming effect (plus). All of these are measured in watts per square metre ("W/m²").

So without further ado, Figure 1 shows the net cloud radiative effect (CRE) from the ten years of CERES data. It shows, for each area of the earth, what happens when there are clouds.

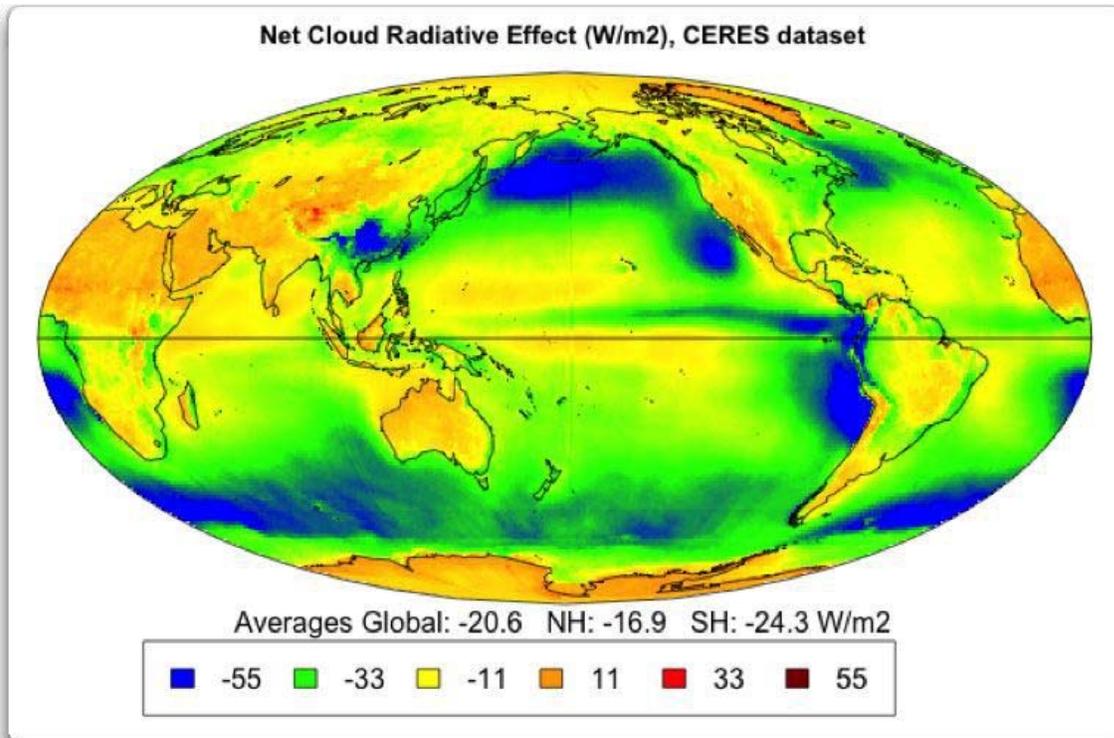


Figure 1. Net cloud radiative effect (CRE). Red and orange areas show where clouds warm the earth, while yellow, green, and blue show areas where clouds cool the earth. The map shows that if there is a cloud at a certain area, how much it will affect the net annual radiation on average. Note that in some areas, particularly over the land, the net effect of the clouds is positive. Overall, however, as our common experience suggests, the clouds generally cool the earth. But this doesn't answer the interesting question—what happens to the clouds when the earth warms up? Will the warming cloud feedback predominate, or will the clouds cool the earth? It turns out that the CERES data plus the earth temperature data is enough to answer that question. <http://wattsupwiththat.com/2013/10/03/the-cloud-radiative-effect-cre/#more-95082>

I. THE 2013 IPCC AR5 REPORT: FACTS -VS- FICTIONS

Posted on [October 3, 2013](#) by [Guest Blogger](#)

Guest essay by Dr. Don J. Easterbrook, Professor of Geology, Western Washington University

Mark Twain popularized the saying “There are liars, damn liars, and statisticians.” After reading the recently-released [IPCC AR5] report, we can now add, “there are liars, damn liars, and IPCC.” When compared to the also recently published NIPCC (Nongovernmental International Panel on Climate Change) 1000⁺-page volume of data on climate change with thousands of peer-reviewed references, the inescapable conclusion is that the IPCC report must be considered the grossest misrepresentation of data ever published. As MIT climate scientist Dr. Richard Lindzen stated, “*The latest IPCC report has truly sunk to the level of hilarious incoherence—it is quite amazing to see the contortions the IPCC has to go through in order to keep the international climate agenda going.*”

From the IPCC 2013 Report

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}

After all these years, IPCC still doesn't get it—we've been thawing out from the Little Ice Age for several hundred years but still are not yet back to pre-Little Ice Age temperatures that prevailed for 90% of the past 10,000 years. Warming and cooling has been going on for millions of years, long before CO₂ could have had anything to do with it, so warming in itself certainly doesn't prove that it was caused by CO₂.

<http://wattsupwiththat.com/2013/10/03/the-2013-ipcc-ar5-report-facts-vs-fictions/#more-95072>

J. PIELKE JR. AGREES – 'EXTREME WEATHER TO CLIMATE CONNECTION' IS A DEAD ISSUE

Posted on [October 3, 2013](#) by [Anthony Watts](#)

I wrote the day after IPCC AR5 SPM was released in [Thoughts on IPCC AR5 SPM – discussion thread](#):

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On the plus side, contrary to ongoing claims from that alarmist media mill side there are no mentions of tornadoes and hurricanes in the extreme weather events section. They give low confidence to tropical storm activity being connected to climate change, and don't mention mesoscale events like tornadoes and thunderstorms at all. Similarly, they give low confidence to drought and flood attribution.

<http://wattsupwiththat.com/2013/10/03/pielke-jr-agrees-extreme-weather-to-climate-connection-is-a-dead-issue/#more-95040>

K. IPCC CALLS OFF PLANETARY EMERGENCY?

Posted on [October 4, 2013](#) by [Guest Blogger](#)

Guest essay by Marlo Lewis

Okay, they don't do so in as many words. But in addition to being more confident than ever (despite a [16-year pause in warming](#) and the [growing mismatch](#) between [model projections](#) and [observations](#)) that man-made climate change is real, they are also more confident nothing really bad is going to happen during the 21st Century.

The scariest parts of the “planetary emergency” narrative popularized by Al Gore and other pundits are Atlantic Ocean circulation shutdown ([implausibly](#) plunging Europe into a mini-ice age), ice sheet disintegration raising sea levels 20 feet, and runaway warming from melting frozen methane deposits.

<http://wattsupwiththat.com/2013/10/04/ipcc-calls-off-planetary-emergency/#more-95158>

L. THE WARMING OF MAX AND MIN GLOBAL TERRESTRIAL TEMPERATURES (2 OCT 2013)

Reference

Donat, M.G., Alexander, L.V., Yang, H., Durre, I., Vose, R., Dunn, R.J.H., Willett, K.M.,

Aguilar, E., Brunet, M., Caesar, J., Hewitson, B., Jack, C., Klein Tank, A.M.G., Kruger, A.C., Marengo, J., Peterson, T.C., Renom, M., Rojas, C.O., Rusticucci, M., Salinger, J., Elrayah, A.S., Sekele, S.S., Srivastava, A.K., Trewin, B., Villarroya, C., Vincent, L.A., Zhai, P., Zhang, X. and Kitching, S. 2013. Updated analyses of temperature and precipitation extreme indices since the beginning of the twentieth century: The HadEX2 dataset. *Journal of Geophysical Research (Atmospheres)* **118**: 2098-2118.

According to Donat *et al.* (2013), "research into climate extremes has progressed enormously over the last few decades ... largely due to international coordinated efforts to collate, quality control and analyze variables and events that represent the more extreme aspects of climate." Perhaps the most substantial such effort was the one that resulted in the global gridded dataset known as HadEX, which was developed by Alexander *et al.* (2006). And it became the purpose of Donat *et al.* to update and expand it into the new HadEX2 dataset.

To do so, high-quality observations from over 7,000 temperature- and 11,000 precipitation-monitoring meteorological stations across the globe were obtained and used to calculate various indices of temperature and precipitation extremes over the period of record available for each station, after which monthly and annual indices were interpolated onto a 3.75° x 2.5° longitude-latitude grid covering the period 1901-2010.

Focusing on temperature, the 29 researchers report that "all temperature-related indices show significant and widespread warming trends, which are generally stronger for indices calculated from daily minimum (nighttime) temperature than for those calculated from daily maximum (daytime) temperature." Or as they more simply put it in the discussion section of their paper, "globally averaged minimum temperature extremes are warming faster than maximum temperature extremes."

These findings represent good news in regard to human health, because over most of the world *cold* kills far more people than *warmth* does, as may be seen by perusing the materials we have archived under the general heading of [Health Effects of Temperature](#) in our Topical Archive. And a subset of those many studies further indicates that greater *diurnal temperature ranges* (DTRs) - such as those that prevail when maximum daily temperatures warm faster than minimum daily temperatures (which is just the *opposite* of what Donat *et al.* found to be the case over the last 110 years - are far more deadly than are lesser DTRs, as reported, for example, by Cao *et al.* (2009), Tam *et al.* (2009), Lim *et al.* (2012) and Yang *et al.* (2013). And, therefore, it can logically be concluded that the *type* of warming experienced throughout the world over the period 1901-2010 has actually helped to *promote* human longevity, in contradiction of the contrary notion that many climate alarmists continue to champion.

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<http://www.nipccreport.org/articles/2013/oct/2oct2013a2.html>

M. CRASH BOOM BANG

Posted on [October 5, 2013](#) by [Anthony Watts](#)

The smart money is starting to abandon the CO₂ vessel

Guest essay by Fred F. Mueller

The IPCC and its supporters in the media, in NGO's and in governments have taken advantage of the issuing of the newly released 5th Assessment Report (AR 5) to mount an all-out PR offensive promoting their view of CO₂-induced doom for humanity using any and all news channels and tabloids as pitchmen. Despite growing distrust in the general public, few people have the mettle to stand their ground against such a massive persuasiveness. How can an average citizen acquire the steadfastness to brush off this veil of lies? The answer is simple: follow the money trail.

When confronted with overwhelming “scientific evidence”, one should keep in mind the basic question any criminal investigator learns to ask whenever being confronted with a puzzling case: who is benefitting? In the case of “climate change science”, the answer is simple, since in the past decades a trillion-dollar-business has sprung up providing all sorts of equipment and services intended to lower what is dubbed our “CO₂ footprint”. Whole sectors such as solar and wind energy farms have grown like mushrooms promising to supply our nations with so-called clean and green energy.

As shown, the models overestimated the warming of global land surface air temperatures since November 1981 by about 23% (which isn't too bad), but the models doubled the observed rate of warming of the surface temperatures of the global oceans (and that's horrendous). Now consider that most of the warming of global land surface air temperatures is in response to the warming of global sea surface temperatures. (See Compo and Sardeshmukh (2009) “[Ocean Influences on Recent Continental Warming](#).”) In the real world, the land surface temperatures warmed at a rate that was more than 3 times faster than the warming of global sea surface temperatures, but in the fantasy modeled world, land surface temperatures only warmed 2 times as fast.

<http://wattsupwiththat.com/2013/10/05/crash-boom-bang/#more-95209>

N. NO MATTER HOW THE CMIP5 (IPCC AR5) MODELS ARE PRESENTED THEY STILL LOOK BAD

Posted on [October 4, 2013](#) by [Bob Tisdale](#)

UPDATE: I've added a comment to the end of the post about the use of 1990 as the start year.

###

After an initial look at how the IPCC elected to show their model-data comparison of global surface temperatures in Chapter 1, we'll look at the CMIP5 models a couple of different ways. And we'll look at the usual misinformation coming from SkepticalScience.

Keep in mind, the models look best when surface temperatures are presented on a global land-plus-sea surface temperature basis. On the other hand, climate models cannot simulate sea surface temperatures, in any way, shape or form, or the coupled ocean-atmosphere processes that drive their warming and cooling.

###

There's a big hubbub about the IPCC's change in their presentation of the model-data comparison for global surface temperatures. See the comparison of before and after versions of Figure 1.4 from the IPCC's 5th Assessment Report (My Figure 1). Steve McIntyre commented on the switch [here](#). (Cross post at WattsUpWithThat [here](#).) Judith Curry discussed it [here](#). The switch was one of the topics in my post [Questions the Media Should Be Asking the IPCC – The Hiatus in Warming](#). And everyone's favorite climate alarmist Dana Nuccitelli nonsensically proclaimed the models "much better than you think" in his posts [here](#) and [here](#), as if that comparison of observed and modeled global surface temperature anomalies is a true indicator of model performance. (More on Dana's second post later.)

Before and After Versions of Figure 1.4 From IPCC AR5

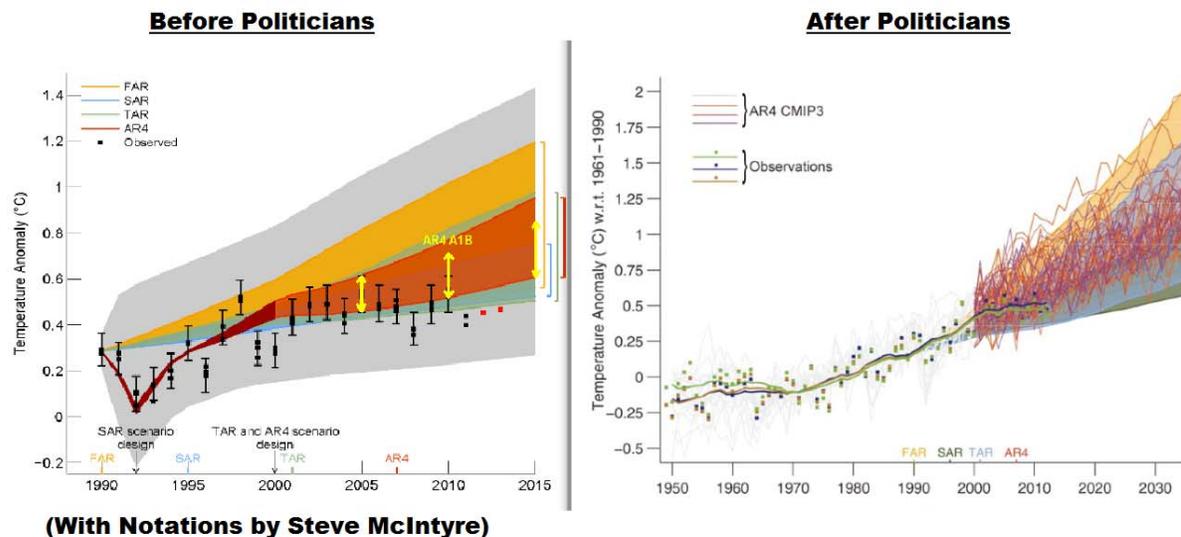


Figure 1

Much of what's presented in the IPCC's Figure 1.4 is misdirection. The models presented from the IPCC's 1st, 2nd and 3rd Assessment Reports are considered obsolete, so the only imaginable reason the IPCC included them was to complicate the graph, redirecting the eye from the fact that the CMIP3/AR4 models performed poorly.

<http://wattsupwiththat.com/2013/10/04/no-matter-how-the-cmip5-ipcc-ar5-models-are-presented-they-still-look-bad/#more-95139>

O. THE GREAT CLIMATE SHIFT OF 1878

Posted on [October 4, 2013](#) by [Anthony Watts](#)

Guest essay by [Jeffery S. Patterson](#)

My [last post on WUWT](#) demonstrated a detection technique that allows us to de-noise the climate data and extract the various natural modes which dominate the decadal scale variation in temperature. In a [follow-up post](#) on my blog, I extend the analysis back to 1850 and show why, to first-order, the detection method used is insensitive to amplitude variations in the primary mode. The result is reproduced here as figure 1.

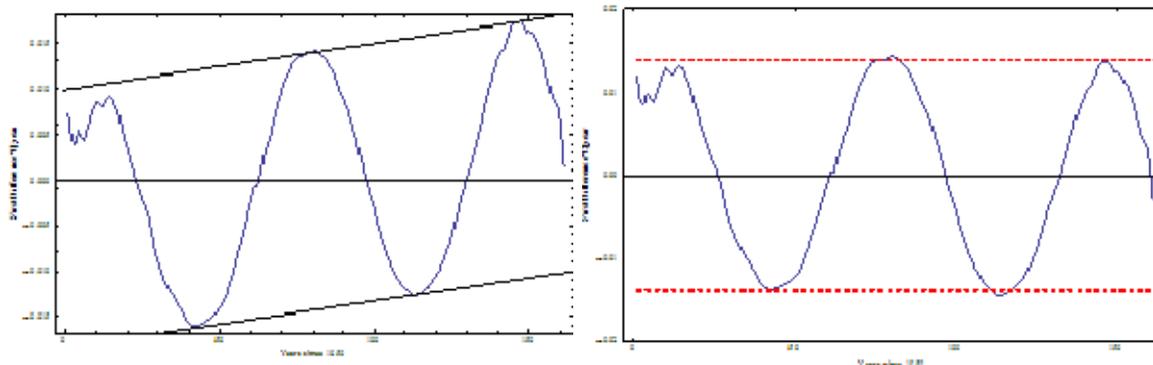


Figure 1a – First-difference of primary mode Fig 1b – De-trended first-difference of primary mode

We see from Figure 1b that once de-trended, the slope of the primary mode has remained bounded within a range of ± 1.2 °C/century over the entire 163 year record.

The linear trend in slope evident in Figure 1a implies a parabolic temperature trend. The IPCC makes oblique reference to this in the recently releases *AR-5 Summary for Policymakers*: <http://wattsupwiththat.com/2013/10/04/the-great-climate-shift-of-1878/#more-95135>

P. SCIENTISTS CALL FOR OVERHAUL OF IPCC CLIMATE PANEL

The world's need is for faster, more focused and more targeted research, scientists say, now that certainty of man-made climate change is established.

[By Katherine Bagley, InsideClimate News](#)

Sep 30, 2013

When a United Nations panel of experts [released a report last week](#) affirming that man-made climate change is a scientific certainty, skeptics of global warming [were noisily trying to discredit the panel](#). In the process, they drowned out the critiques of a far different group.

A broad array of leading climate scientists and policy specialists were also criticizing the panel for the exact opposite reason: They believe the main conclusions of the [Intergovernmental Panel on Climate Change](#) (IPCC) may be too general and too conservative to convey a clear message about the grave threat of warming and to inform policies to address local climate change issues. They say that after 25 years it might be time to overhaul the organization and refocus its research priorities.

<http://insideclimatenews.org/news/20130930/scientists-call-overhaul-ipcc-climate-panel>

<http://insideclimatenews.org/news/20130930/scientists-call-overhaul-ipcc-climate-panel?page=2>

<http://insideclimatenews.org/news/20130930/scientists-call-overhaul-ipcc-climate-panel?page=3>

Q. DIALING BACK THE ALARM ON CLIMATE CHANGE

A forthcoming report points lowers estimates on global warming

By MATT RIDLEY

Later this month, a long-awaited event that last happened in 2007 will recur. Like a returning comet, it will be taken to portend ominous happenings. I refer to the Intergovernmental Panel on Climate Change's (IPCC) "fifth assessment report," part of which will be published on Sept. 27. There have already been leaks from this 31-page document, which summarizes 1,914 pages of scientific discussion, but thanks to a senior climate scientist, I have had a glimpse of the key prediction at the heart of the document. The big news is that, for the first time since these reports started coming out in 1990, the new one dials back the alarm. It states that the temperature rise we can expect as a result of man-made emissions of carbon dioxide is lower than the IPCC thought in 2007.

Admittedly, the change is small, and because of changing definitions, it is not easy to compare the two reports, but retreat it is. It is significant because it points to the very real possibility that, over the next several generations, the overall effect of climate change will be positive for humankind and the planet.

<http://online.wsj.com/article/SB10001424127887324549004579067532485712464.html>

R. UN'S MASSIVE NEW CLIMATE REPORT ADDS LITTLE EXPLANATION FOR 'PAUSE' IN WARMING

By [John Roberts](#)

Published September 30, 2013

FoxNews.com

An enormous U.N. report on the scientific data behind global warming was made available Monday, yet it offers little concrete explanation for an earthly oddity: the planet's climate has hit the pause button.

Since 1998, there has been no significant increase in global average surface temperature, and some areas -- notably the Northern Hemisphere -- have actually cooled. [The 2,200-page new Technical Report](#) ➔ attributes that to a combination of several factors, including natural variability, reduced heating from the sun and the ocean acting like a "heat sink" to suck up extra warmth in the atmosphere.

One problem with that conclusion, according to some climate scientists, is that the U.N.'s Intergovernmental Panel on Climate Change (IPCC) has limited the hiatus to 10-15 years. Anastasios Tsonis, distinguished professor at the University of Wisconsin – Milwaukee, believes the pause will last much longer than that. He points to repeated periods of warming and cooling in the 20th century.

'I know that the models are not adequate ... they don't agree with reality.'

- Anastasios Tsonis, distinguished professor at the University of Wisconsin – Milwaukee
"Each one of those regimes lasts about 30 years ... I would assume something like another 15 years of leveling off or cooling," he told Fox News.

That goes well beyond [the window the IPCC has acknowledged](#), which Tsonis and other scientists believe will significantly change the predictions for temperature rise over the next century.

"I know that the models are not adequate," Tsonis told Fox News. "There are a lot of climate models out there. They don't agree with each other – and they don't agree with reality."

In fact, the IPCC's massive, complex new report acknowledges that none of the models predicted the hiatus. The authors write that it could be due to climate models over-predicting the response to increasing greenhouse gases, or a failure to account for water vapor in the upper atmosphere.

The bottom line – no one saw it coming.

“Almost all historical simulations do not reproduce the observed recent warming hiatus,” the report states.

Tsonis was pleased that the IPCC acknowledged that natural variability may have played a part in the stall in upward temperature trends. But he said the report’s authors totally ignored groundbreaking research he presented six and four years ago that fully explained such “pauses.” He attributes them to an intricate interaction of oceanic and atmospheric modes which either warm or cool the planet on a time scale of decades.

Judith Curry, chair of the School of Earth And Atmospheric Sciences at Georgia Tech, says the IPCC is taking a huge credibility hit over the hiatus – and its pronouncement that it is 95 percent certain that human activity is responsible for most global warming.

“I’m not happy with the IPCC,” she told Fox News. “I think it has torqued the science in an unfortunate direction.”

That torquing, she suggests, is because the money in climate science (the funding, that is) is tied to embellishing the IPCC narrative, especially the impacts of global warming. She is critical of the IPCC’s leadership as well, in particular [its chairman, Rajendra Pachauri](#).

“They have explicit policy agendas,” Curry told Fox News. “Their proclamations are very alarmist and very imperative as to what we should be doing. And this does not inspire confidence in the final product.”

Other scientists argue passionately against such talk.

Penn State’s Michael Mann – who authored the famous “hockey stick” graph showing a stunning rise in temperatures in the late 20th century – believes this latest IPCC report only confirms what he has been arguing for years. That the Earth is warming, and humans are to blame.

“We cannot explain the warming through natural causes,” he told Fox News. “It can only be explained by the increased greenhouse gas concentrations from human fossil fuel burning.”

Mann goes so far as to say that if you remove the “noise” from the recent pause in temperature rise, human activity is to blame for 100 percent of the global warming.

Tsonis strongly disagrees. He acknowledges that human activity is likely having an impact on climate, but adds “Nobody has ever proven for 100 percent that the long-term warming is man-made. In my educated guess I will think something like less than 30 percent.”

Judith Curry believes the approach the IPCC takes to climate change is fundamentally flawed.

Consensus-seeking, she says, introduces bias into the science.

“They don’t challenge it and say, well, how might this be wrong?” she told Fox News. “What are all the different reasons or ways this could be wrong? And once you start looking at it that way, you come up with a lot of different answers.”

end paste

J Frank

Regards
George