This week's edition includes:
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 TESTIMONY OF EPA ADMINISTRATOR GINA MCCAUGHTY BEFORE THE SENATE INTERIOR, ENVIRONMENT AND RELATED AGENCIES SUBCOMMITTEE OF THE SENATE COMMITTEE ON APPROPRIATIONS

WASHINGTON – U.S. Environmental Protection Agency (EPA) Administrator Gina McCarthy testified today before the Senate Interior, Environment and Related Agencies Subcommittee of the Senate Committee on Appropriations at a hearing to discuss EPA’s proposed FY 2015 budget.

Administrator McCarthy’s remarks:

Chairman Reed, Ranking Member Murkowski, and members of the Committee, thank you for the opportunity to appear before you to discuss the Environmental Protection Agency’s proposed FY 2015 budget. I’m joined by the Agency’s Acting Chief Financial Officer, Maryann Froehlich.

EPA’s budget request of $7.890 billion for the 2015 fiscal year starting October 1, 2014 reflects our ongoing efforts to meet the challenges facing the agency today and into the future. Despite these challenges, we remain dedicated to protecting public health and the environment, and we know we must target staff and resources and find new ways to fulfill our mission. We will focus those resources in a way that will allow EPA to be more effective and efficient.

Roger Zymunt
Env140421
B. LAWMAKERS INVESTIGATE SECOND EPA OFFICIAL'S ROLE IN 'CIA' SPY SCAM

By Joel Gehrke | APRIL 8, 2014 AT 8:59 AM

Former Environmental Protection Agency official John Beale is in prison for defrauding the government of almost $900,000 by pretending to be a CIA spy, and now congressional investigators are turning their attention to a colleague suspected of helping him.

Robert Brenner, Beale's best friend at EPA, has refused to cooperate with an inspector general's investigation, and Sen. David Vitter, R-La., and House Oversight and Government Reform Committee chairman Darrell Issa, R-Calif., want answers.

"[I]t appears Beale could not have accomplished his crimes without Brenner's assistance," Vitter and Issa wrote to Brenner's attorney, Justin Shur, in a Monday letter.

The Republicans suggested that Brenner has already lied to Congress, in addition to lying to the EPA about in recommending Beale for bonuses, and recommending him for a lucrative promotion.

"In each of these instances, your client’s actions facilitated Beale’s fraud," Issa and Vitter wrote. "Moreover, we have learned that your client often corroborated Beale’s lies."

The investigators told Shur they want all of Brenner's documents pertaining to Beale by April 23.

In a separate letter, they also asked EPA Administrator Gina McCarthy to hand over all of Brenner's documents from the time he hired Beale in 1987 to the time he retired in 2011.


C. EPA: FOCUSING ON BIGGEST POLLUTERS "IS THE RIGHT WAY" TO GO

The Environmental Protection Agency defended its plan to focus on prosecuting the biggest polluters in the U.S., as this will "achieve tangible and lasting returns to the public," said Cynthia Giles, the agency's assistant administrator for enforcement and compliance assurance. "This approach best protects public health not only by addressing the most serious pollution problems, but also by directing EPA's resources to important cases that may not be addressed by states," according to the EPA's plan.


2. HEALTH A MUCORMYCOSIS - USA: (LOUISIANA) 2009, HOSPITAL LINEN, FATAL

A ProMED-mail post

<http://www.promedmail.org>

ProMED-mail is a program of the International Society for Infectious Diseases <http://www.isid.org>

Date: Wed 9 Apr 2014

Hospital linens were identified as the agent of transmission during an outbreak of mucormycosis that resulted in 5 deaths at a pediatric hospital in Louisiana, according to findings published recently in The Pediatric Infectious Disease Journal [1].

3. SAFETY A OFFSHORE SAFETY PROBLEMS PERSIST

Coast Guard admiral says ‘we’re not where we need to be’ on rigs and other vessels

By Collin Eaton

Offline emergency generators. Inoperable fire-detection systems. Cracked rescue boats. Despite mandatory offshore safety codes, the U.S. Coast Guard continues to find dozens of problems on deep-water drilling rigs and other vessels, years after rules went into effect and often months after inspections are announced.

“We’re not where we need to be,” Coast Guard Rear Adm. Joseph Servido told an industry audience at the second annual Center for Offshore Safety Forum in Houston.

Some offshore operations view safety systems as “an administrative exercise, based on the deficiencies and the problems we’re seeing,” said Servido, assistant Coast Guard commandant for prevention policy, who oversees activities including safety and vessel inspections.

The nation’s top offshore regulator, Brian Salerno, director of the Bureau of Safety and Environmental Enforcement, said at the forum that the first round of safety audits under new federal regulations had mixed results, with some deep-water operators giving authorities few insights into how they handle vessel deficiencies and other issues.

“We really wondered if we got what we needed out of that in many cases,” Salerno said.

The 2-year-old federal programs were designed to improve safety on offshore drilling rigs and other vessels after the 2010 Gulf of Mexico oil spill.

But many of the offshore drillers that took the offshore safety audits last year were reluctant to provide information out of fear that “too much honesty might spark increased scrutiny from regulators,” he said.

The safety bureau is bulking up reporting requirements under a second iteration of the Safety and Environmental Management Systems rule, which requires third-party auditors to inspect offshore facilities’ federally mandated safety programs. The second round of audits, which Salerno called “a bit more rigorous” than the first, is due in June 2015.

The agency, he said, has responded to a number of incidents in the past year in which workers were injured or the environment was polluted because operators failed to follow basic safety principles.

“Safety culture is very much a company-specific thing at this point,” he said. “We’re a long way from saying there’s widespread adoption of safety culture in the industry.”

Servido said the Coast Guard wants to reduce the number of offshore drilling rigs that do not have safety plans in place, including half of offshore drilling units, 60 percent of offshore supply vessels and 70 percent of liftboats

— vessels that can extend legs to the seafloor and rise above the water to perform various offshore functions.

“Safety performance indicators or barrier failures need to inform us before the most lagging of lagging indicators — the collisions, the groundings, the explosions, the fatalities,” Servido said.

The Coast Guard is also planning to mine its vessel data to target operators that consistently fail to resolve safety issues, an effort that may prove instructive as to broader offshore risks, Servido said.
In a similar vein, Salerno said the Bureau of Safety and Environmental Enforcement is putting together what he called a “near-miss” reporting system that would require oil companies to send word to regulators when they narrowly avoid an accident such as an oil spill. The agency could learn from these incidents about dangers in deeper waters, he said.

The bureau is arranging public meetings on the issue in Houston and on the West Coast later this month.

“What we really need is good advice on what’s the most important data for us to collect,” Salerno said. collin.eaton@chron.com twitter.com/CollinEatonHC

Environmental Enforcement is bulking up safety reporting requirements. U.S. Coast Guard Rear Adm. Joseph Servido says safety issues still crop up.

4. TRANSPORTATION  A. SEC. FOXX: FRA REGULATION IS "LATEST EFFORT" FOR CRUDE OIL SAFETY

The Federal Railroad Administration is set to propose a new regulation that will require oil-carrying trains to have a two-person crew. Assessments by the Railroad Safety Advisory Committee Working Groups on Appropriate Train Crew Size, Securement and Hazardous Materials Issues were held to produce recommendations that could be adopted for rulemaking. "The proposed rulemaking on crew size is the latest effort in our comprehensive strategy to ensure crude oil is transported as safely as possible," said Transportation Secretary Anthony Foxx.


COMMENTS:


NIPCC Briefings: From April 7 to April 10, representatives of the Nongovernmental International Panel on Climate Change (NIPCC) conducted a series of briefings in Washington, DC, announcing the publication of the new work: Climate Change Reconsidered II: Biological Impacts. The briefing team consisted of Craig Idso and Fred Singer, Lead Authors of Climate Change Reconsidered II, Joseph Bast of The Heartland Institute, publisher of the NIPCC reports, and Ken Haapala of SEPP. On occasion, they were supplemented by Marlo Lewis of the Competitive Enterprise Institute who spoke on policy impacts, David Kreutzer of the Heritage Foundation who spoke on the bureaucratically contrived Social Cost of Carbon, and Patrick Michaels of CATO moderated the briefing given at CATO.

The general program began with an introduction by Joe Bast of the new volume and of the speakers. In addressing the science, Fred Singer focused on the graph by McNider & Christy that appeared in their editorial published in the February 19, 2014 Wall Street Journal. The graph, titled “Warming Predictions vs. the Real World” is simple and should be easily understood. The graph shows an average of 102 model runs with the start based on 1979 (the beginning of satellite temperature data) as compared with two sets of temperature data from satellites and four sets of temperature data from weather balloons. The greenhouse effect takes place in the atmosphere and this is where it should be most readily observed and measured.

The satellite and balloons observations agree. The models do not. The models greatly overestimate the warming trend. The disparity between observations and models is increasing
each year. The atmospheric temperature data shows no warming trend for at least a decade, the surface data show no warming trend for at least 15 years. Models show consistent warming. Ironically, as the “gap” grew wider, successive UN-Intergovernmental Panel on Climate Change (IPCC) Assessment Reports (AR) expressed increasing certainty in the existence of dangerous anthropogenic (human-caused) global warming (AGW): namely, it was (greater than) >50% in [AR2-1996], >66% [AR3 2001], >90% [AR4 2007], and >95% [AR5 2013]. Clearly, current IPCC climate models are inadequate and cannot be used to forecast future temperatures or to establish far-reaching policies.

Conclusion: Government limiting emissions of essential carbon dioxide (CO2) is a “policy in search of a problem.”

Ken Haapala followed by showing that the failure of IPCC science is not due to the failure of governments to fund global warming/climate change research. Based on three US government reports, with their categories, the US government expenditures on climate change exceed $165 Billion, since Fiscal Year (FY) 1993. Expenditures on what the reports identify as climate science exceeds $35 Billion since FY 1993.

A graph prepared by Nir Shaviv shows there has been no advance in the official scientific understanding of the impact on temperatures from a doubling of atmospheric CO2 since the Charney report to the National Academy of Sciences in 1979. Except for a slight bump in the lower range in the IPCC AR4 (2007), since changed back, the estimates remain the same: 1.5ºC to 4.5ºC, about 3 to 8ºF. Studies ignored by the IPCC indicate that any increase in temperatures may be far less.

Clearly, there is something wrong with the assertion (hypothesis) that CO2 has a significant impact on temperatures or the procedures (methodology) used by the IPCC, or both. [It is probably both. The IPCC mandate is to understand the human influence on climate and it has attempted to do so without first understanding the natural influences on climate. The mandate coupled with the failure to conduct proper hypothesis testing has consistently led to overestimates of the human influence. The IPCC is in a bureaucratic trap (gilded cage) of its own making and it cannot effectively back-down and admit it has been wrong.]

Also, Haapala pointed out that in FY 2013 about 85% of the US expenditures on climate change go to agencies and programs that pretend they can stop climate change, which has been ongoing for hundreds of millions of years.

Fittingly, Craig Idso presented the star of the show—the 1,000 plus page report citing thousands of scientific studies showing that increasing atmospheric CO2 is a tremendous benefit to plants, the environment, and humanity. This tome stands up to the bureaucratic science of the IPCC and the contrived notion that invisible CO2 causes harm. Much of the research of possible harms relies on models that use the upper end of possible values of warming from a doubling of CO2, the use of which cannot be justified given the clear failing of these models.

The book has seven chapters and Idso hit the highlights of each. Chapter 1 discusses the impact of CO2 on plants and soils. It cites over 200 years of research demonstrating that both plant productivity and growth increase with increasing CO2 concentrations in the air. A reporter for the Guardian (UK) thought she had a “got you” moment when she pointed out that in the summary of the chapter there is only one reference to 21st century work. The actual chapter in the main report contains many pages of citations including a significant number published in the 21st century. What the reporter did was emphasize that the IPCC, and others, ignore centuries of work on the benefits of CO2.
Chapter 2 goes into detail on studies of the impact of CO2 on plant characteristics. The principle study methods are to grow plants in CO2-enriched air and, in the case of long-lived trees, study how trees have responded to increasing atmospheric CO2. The key information sought are the rates of photosynthesis, biomass production, and the efficiency of water use. The research finds that the effects are overwhelmingly positive.

Chapter 3 addresses a significant body of research that the IPCC overlooks in its claim that warming will introduce new sources of stress on the biological world, such as forest fires, droughts, and extreme heat events, etc. There is a significant body of research that indicates the opposite. Enhanced CO2 will make the plants more resilient to stresses such as drought, diseases, insect damage, heavy metals, herbivores, soil salinity, etc.

Chapter 4 examines the likely future impact on plants. It demonstrates how atmospheric CO2 enrichment has expanded food production and biosphere productivity since the start of the industrial revolution. Further, it reports how CO2 enrichment helps plants resist temperature-induced extinction – in direct contrast to IPCC claims that rising temperatures (whatever the cause) will cause a decline in biosphere productivity. The IPCC claims are refuted by the empirical data showing increasing productivity of the biosphere. Except for Antarctica, the vigor of the Earth’s terrestrial biosphere has been increasing with time, since industrial revolution, and this increasing vigor extends over the entire globe.

Chapter 5 addresses the impact on terrestrial animals and the false claims by the IPCC of species extinction due to global warming. It points out that the models used are deeply flawed by artificially constrained climate envelopes and assumptions of immobility of species. These incorrect assumptions are routinely contradicted by observations.

Chapter 6 addresses the false notion, so heavily promoted, that the oceans will acidify with increasing CO2 concentrations and that they will warm to the point of diminishing or destroying aquatic life. The material in chapter 6 directly contradicts these notions and cites hundreds of peer-reviewed research analyses that suggest a much better future in a warmer, CO2 enriched aquatic world. A warming will increase ocean productivity. Species will adapt, as they have for eons since the earth was warmer and atmospheric CO2 concentrations were greater. Note, this does not mean that the increased CO2 caused the warmer world.

Chapter 7 finds that overall, a warmer world with increased atmospheric CO2, will be a great benefit to humanity. Cold related deaths are greater than heat related deaths. Further, numerous studies show that after an increase in heat related deaths, the death rates fall, indicating that the deaths would have occurred, but a short time later. The increases if food productivity immensely benefit humanity.

*Climate Change Reconsidered II; Biological Impacts describes thousands of peer-reviewed scientific journal articles that do not support, and often flatly contradict, IPCC’s pessimistic narrative of ‘death, injury, and disrupted livelihoods.’* How CO2 enrichment has affected global food supply is fact, not opinion. The work of the IPCC cannot be considered unbiased science. The public should demand to know why the IPCC is silent or hides the benefits of increased CO2.

Joe Bast then concluded the briefings with three take-home points: 1) the IPCC science is failing, the models fail; 2) the failure is not from a lack of government spending; and 3) the environment and humanity benefit from increasing atmospheric CO2, and any slight warming it may cause. Last week’s TWTW discussed three major findings in the IPCC report released on March 31, which were: 1) global warming/climate change will cause disruption of agriculture and the threat of famine; 2) increased atmospheric carbon dioxide will cause ocean acidification (actually a
reduction in alkalinity), threatening the oceans as a source of food; and 3) global warming will cause increases over historic sea level rise, threatening those who live on coastal areas. Based on the NIPCC report discussed above, none of these represent a major threat, and do not require a reduction in use of fossil fuels.

See links under Challenging the Orthodoxy –NIPCC. For the Shaviv graph see http://www.sciencebits.com/AR5-FirstImpressions

IPCC: The IPCC report of Working Group III on the mitigation of climate change is due to be released on April 13. Some leaks indicate that it will contain severe recommendations on limiting CO2 emissions. If so, it will be more evidence that the IPCC is a political body, not a scientific one. The IPCC has failed to produce the scientific evidence that human CO2 emissions are causing significant global warming/climate change. Climate models, which have not been validated, and are failing, are not scientific evidence. See Article # 1, links under Defending the Orthodoxy, and Problems in the Orthodoxy.

Is the Sun Rising? Svensmark’s hypothesis that minor variations of sun have a significant influence on the earth’s climate is supported by an additional paper, just published. The hypothesis is that high-energy cosmic rays promote the formation of clouds, cooling the earth. An active sun reduces the number of high-energy rays reaching the atmosphere, with the result being a warming of the earth. A dormant sun allows for more rays, cooling the earth. The hypothesis is ignored by the IPCC in its summary of the influences on the earth’s climate. On his web site, Anthony Watts has a simplified flow chart explaining the process. See links under Science: Is the Sun Rising?

Propaganda: Called father of modern advertising, Edward Benays learned his craft during World War I at the US Committee on Public Information (CPI). The CPI advertised and sold the war to the American people claiming it would “Make the World Safe for Democracy.” In the first paragraph of his book, Propaganda (1928) Benays wrote: The conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democracy. Those who manipulate this unseen mechanism of society constitute an invisible government which is the true ruling power of our country.

Andrew Montford (Bishop Hill) and John Shade examined the education system in the UK and the Global Warming Policy Foundation published the findings under the title Climate Control: Brainwashing in schools. Montford and Shade wrote: Gone are the days when the education system hoped to generate young people equipped to form their own opinions on complex scientific sociological and political issues. Instead the education system, subverted by a green political movement, now seeks conformity with environmental orthodoxy, with any challenge to its vivid certainties viewed as transgressions to be ignored or treated with contempt.

According to Montford and Shade, knowledge is being replaced by propaganda. The Secretary of State for Education, Michael Gove, reacted quickly, but it remains to be seen if his reaction will be of substance or only for show.

On another side, Judith Curry posted her views on her latest “debate” with alarmist Kevin Trenberth of the US National Center for Atmospheric Research (NCAR). The occasion was a Conference for World Affairs in Boulder, Colorado. During the question and answer period, the normally restrained Curry commented she regarded presentations like Trenberth’s to be propaganda.
Though it may be distasteful, the term, propaganda, can apply to a great body of the work presented by the IPCC, particularly that resulting from the use of computer models that have not been verified and validated, such as forecasts of dire futures for plants, the environment, and humanity from increasing atmospheric CO2. See links under Communicating Better to the Public –Use Propaganda on Children and Seeking a Common Ground.

Lewandowsky: The fallout on the withdrawal by the journal Frontiers of a discredited paper by Lewandowsky et al. continues to raise controversy. Andrew Montford had particularly devilish comments: Ugo Bardi, an Italian chemist who seems to have something to do with the Club of Rome, has resigned from the editorial team at Frontiers in disgust, penning a long protest article here... And, as if to put the seal on the conclusion that the paper was bunk, support for Bardi’s decision comes from Peter Gleick, a man with long and deep experience in the area of ethical compromise. Gleick pretended to be a director of The Heartland Institute in order to obtain sensitive information under false pretenses. See links under Challenging the Orthodoxy.

Energy Security: Russian President Vladimir Putin is forcing Europe to focus on energy security rather than green energy. Security does not come from unreliable sources of electricity that must be backed up by natural gas imports from Russia. See links under Energy Issues –Non-US

Anti-science? The US House of Representatives, controlled by Republicans who are called anti-science, passed a bill requiring that the National Oceanic and Atmospheric Administration (NOAA) and its National Weather Service (NWS) focus on forecasting weather rather than forecasting climate. Weather is killing people. NOAA/NWS missed Sandy while Weather Bell Analytics caught it nine days in advance. Cliff Mass, who is not a global warming skeptic, explains what happened with NOAA/NWS. See link under Models v. Observations.

Oh Mann! A Penn State article states that Mr. Mann and his colleagues have found that the current no warming trend is being caused by the Atlantic Multidecadal Oscillation (AMO). Mr. Mann’s work is being financed National Science Foundation. No doubt, Mr. Mann gets far more funding from the government than Weather Bell Analytics whose principals have been discussing the AMO for years. Mr. Mann also finds the current no warming trend is fleeting. We shall see. See link under Oh Mann!

Number of the Week: $97,000. Based on survey data compiled by the National Association of Colleges and Employers, the top-paying undergraduate major in 2013 was petroleum engineering, with an average starting salary of $97,000. See Article #2 http://www.sepp.org/twtwfiles/2014/TWTW%204-12-14.pdf

B. DEEPENING DIVIDE OVER CLIMATE CHANGE SPARKS FIERCE DEBATE
In the climate change debate, believers and skeptics alike have vastly different opinions based on widely divergent facts. That was illustrated by Wednesday's release of "Climate Change Reconsidered II," a study by the Nongovernmental International Panel on Climate Change, which draws its conclusions from thousands of peer-reviewed papers, and which finds global warming to be an entirely manageable, if not beneficial, change in the climate. The report stands in stark contrast to the U.N.'s latest Intergovernmental Panel on Climate Change report of March 31, which predicts "severe impacts" from climate change, but which was toned down from earlier IPCC reports that predicted an array of global catastrophes resulting from the proliferation of greenhouse gasses into the atmosphere. The IPCC reports have, through the years, stood as the unassailable foundation for the Obama administration regulatory policy on global warming. "The debate is settled. Climate change is a fact," Obama said in his 2014 State of the Union Address. "The dirty little secret is, we are now at 17 years and 8 months of no global warming," says Roger Pilon, Vice President for Legal Affairs at the Cato Institute. "Their models have failed year in and year out," he says of the scientists who comprise the 97 percent consensus the administration frequently cites.

C. WHAT DEFINES A SCIENTIST?
By: Marc Morano - Climate Depot April 3, 2014 12:43 PM with 210 comments
Posted on April 5, 2014 by justthefactswuwt

By WUWT Regular “Just The Facts”
According to USA Today on April 3rd and repeated on April 4th:
“Keith Baugues is not a scientist, but that didn’t stop him on a recent wintry day from expressing skepticism about global warming — something that is broadly accepted in the scientific community.”
“Baugues studied engineering at Rose-Hulman Institute of Technology in Terre Haute and has spent six years at the Department of Environmental Management and nine years with the U.S. Environmental Protection Agency.” USA Today
So what did Keith Baugues write such that USA Today chose to identify him as “not a scientist”?:
“He took to a government message board one day in February, complaining that his normal 45-minute commute had turned into a painful three-hour slog. “Anyone who says global warming is obviously suffering from frostbite,” he wrote.”
http://wattsupwiththat.com/2014/04/05/what-defines-a-scientist/#more-107081

D. CLIMATE ALARMISM? OF COURSE! THE IPCC WAS DESIGNED TO CREATE AND PROMOTE IT.
Posted on April 9, 2014 by Anthony Watts
One who deceives will always find those who allow themselves to be deceived. Niccolo Machiavelli
Alarmist: “Someone who is considered to be exaggerating a danger and so causing needless worry or panic.”
Guest essay by Dr. Tim Ball
Richard Tol resigned from the Intergovernmental Panel on Climate Change (IPCC) because their latest report was too alarmist. His action proves that the latest IPCC Report (AR5) raised the level of alarmism without justification. He complained about the problem back in 2010 in a guest post for Roger Pielke’s Jr, but did nothing. Apparently they crossed some threshold of alarmism that scared adherents. 

IPCC controllers realized the new level was required as polls showed little public concern for climate change; politicians were asking questions and, more alarming, cutting funding while global temperature continued its 17-year lack of increase. Failures of IPCC predictions (projections) indicate the failure of their science. Instead of re-examining the science they did what they’ve always done, increased the level of alarmism. 

http://wattsupwiththat.com/2014/04/09/climate-alarmism-of-course-the-ipcc-was-designed-to-create-and-promote-it/#more-107269

E. THE RELEASE OF PART TWO OF CLIMATE CHANGE RECONSIDERED II

The second and third volumes of Climate Change Reconsidered II, addressing biological impacts, human welfare, energy, and policies, will be released during a series of events in Washington DC starting on April 7. These new reports from the Nongovernmental International Panel on Climate Change (NIPCC) are the most comprehensive and authoritative reports on global warming to be published in 2014. They will change the terms of the debate for years to come, bringing the era of global warming alarmism to an end. Your financial support is needed! To learn more about this project visit climatechangereconsidered.org

F. THE LA BREA TARS PITS GETS THEMSELVES IN A STICKY WICKET OVER CLIMATE CHANGE AND ADAPTATION

Posted on April 10, 2014 by Anthony Watts

One of the most shrill arguments from alarmists is the idea that climate change will wipe out species because they can’t adapt. The claims run from polar bears to tortoises, to plants and coral. Yes, if we listen to these arguments, Nature so poorly equipped it’s creatures that they can’t adapt to a slightly warmer future.

Except when the last ice age ended, and it got warmer, and the saber-toothed cats got bigger because the prey got bigger...instead of disappearing due to “climate change”.

From the Natural History Museum of Los Angeles County

La Brea Tar Pit fossil research shows climate change drove evolution of Ice Age predators

LOS ANGELES — Concerns about climate change and its impact on the world around us are growing daily. New scientific studies at the La Brea Tar Pits are probing the link between climate warming and the evolution of Ice Age predators, attempting to predict how animals will respond to climate change today.


G. MAKING ETHANOL WITHOUT THE NEED TO WASTE FOOD CROPS
Stanford scientists discover a novel way to make ethanol without corn or other plants

Stanford University scientists have found a new, highly efficient way to produce liquid ethanol from carbon monoxide gas. This promising discovery could provide an eco-friendly alternative to conventional ethanol production from corn and other crops, say the scientists. Their results are published in the April 9 advanced online edition of the journal *Nature*.

“We have discovered the first metal catalyst that can produce appreciable amounts of ethanol from carbon monoxide at room temperature and pressure – a notoriously difficult electrochemical reaction,” said Matthew Kanan, an assistant professor of chemistry at Stanford and coauthor of the *Nature* study.

Most ethanol today is produced at high-temperature fermentation facilities that chemically convert corn, sugarcane and other plants into liquid fuel. But growing crops for biofuel requires thousands of acres of land and vast quantities of fertilizer and water. In some parts of the United States, it takes more than 800 gallons of water to grow a bushel of corn, which, in turn, yields about 3 gallons of ethanol.

The new technique developed by Kanan and Stanford graduate student Christina Li requires no fermentation and, if scaled up, could help address many of the land- and water-use issues surrounding ethanol production today. “Our study demonstrates the feasibility of making ethanol by electrocatalysis,” Kanan said. “But we have a lot more work to do to make a device that is practical.”

Novel electrodes

Two years ago, Kanan and Li created a novel electrode made of a material they called oxide-derived copper. They used the term “oxide-derived” because the metallic electrode was produced from copper oxide.

“Conventional copper electrodes consist of individual nanoparticles that just sit on top of each other,” Kanan said. “Oxide-derived copper, on the other hand, is made of copper nanocrystals that are all linked together in a continuous network with well-defined grain boundaries. The process of transforming copper oxide into metallic copper creates the network of nanocrystals.”

For the *Nature* study, Kanan and Li built an electrochemical cell – a device consisting of two electrodes placed in water saturated with carbon monoxide gas. When a voltage is applied across the electrodes of a conventional cell, a current flows and water is converted to oxygen gas at one electrode (the anode) and hydrogen gas at the other electrode (the cathode). The challenge was to find a cathode that would reduce carbon monoxide to ethanol instead of reducing water to hydrogen.

“Most materials are incapable of reducing carbon monoxide and exclusively react with water,” Kanan said. “Copper is the only exception, but conventional copper is very inefficient.”

In the *Nature* experiment, Kanan and Li used a cathode made of oxide-derived copper. When a small voltage was applied, the results were dramatic. “The oxide-derived copper produced ethanol and acetate with 57 percent faradaic efficiency,” Kanan said. “That means 57 percent of the electric current went into producing these two compounds from carbon monoxide. We’re excited because this represents a more than 10-fold increase in efficiency over conventional copper catalysts. Our models suggest that the nanocrystalline network in the oxide-derived copper was critical for achieving these results.”
**Carbon neutral**
The Stanford team has begun looking for ways to create other fuels and improve the overall efficiency of the process. “In this experiment, ethanol was the major product,” Kanan said. “Propanol would actually be a higher energy-density fuel than ethanol, but right now there is no efficient way to produce it.”

In the experiment, Kanan and Li found that a slightly altered oxide-derived copper catalyst produced propanol with 10 percent efficiency. The team is working to improve the yield for propanol by further tuning the catalyst’s structure.

Ultimately, Kanan would like to see a scaled-up version of the catalytic cell powered by electricity from the sun, wind or other renewable resource.

For the process to be carbon neutral, scientists will have to find a new way to make carbon monoxide from renewable energy instead of fossil fuel, the primary source today. Kanan envisions taking carbon dioxide (CO2) from the atmosphere to produce carbon monoxide, which, in turn, would be fed to a copper catalyst to make liquid fuel. The CO2 that is released into the atmosphere during fuel combustion would be re-used to make more carbon monoxide and more fuel – a closed-loop, emissions-free process.

“Technology already exists for converting CO2 to carbon monoxide, but the missing piece was the efficient conversion of carbon monoxide to a useful fuel that’s liquid, easy to store and nontoxic,” Kanan said. “Prior to our study, there was a sense that no catalyst could efficiently reduce carbon monoxide to a liquid. We have a solution to this problem that’s made of copper, which is cheap and abundant. We hope our results inspire other people to work on our system or develop a new catalyst that converts carbon monoxide to fuel.”

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The *Nature* study was coauthored by Jim Ciston, a senior staff scientist with the National Center for Electron Microscopy at Lawrence Berkeley National Laboratory.

The research was supported by Stanford University, the National Science Foundation and the U.S. Department of Energy.

This article was written by Mark Shwartz, Precourt Institute for Energy at Stanford University.

**H. CHANGING SUN, CHANGING CLIMATE**

Warmist orthodoxy has ranged so far into the realm of partisan theory that solar radiation is quite specifically rejected as an influence on global temperatures. Our research demonstrates otherwise.

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**Scientists have been studying solar influences on the climate for more than 5000 years. Chinese imperial astronomers kept detailed sunspot records, and noticed that more sunspots meant warmer weather. In 1801, celebrated astronomer William Herschel, the first to observe Uranus, noted that when there were fewer spots the price of wheat soared. He surmised that less “light and heat” from the sun resulted in reduced harvests.**

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It is therefore perhaps surprising that Professor Richard Muller (University of California, Berkeley) recently claimed that “no component that matches solar activity” could be identified in his newly reconstructed BEST global land temperature record. Instead, Professor Muller said, **carbon dioxide controls our changing temperature.**
Can it really be true that solar radiation, which supplies Earth with the energy that drives our weather and climate – and which, when it varied in the past, is known to have caused major climate shifts – is no longer the principal influence on climate change? Consider the charts that accompany this article. In locations as widely separated as US, the Arctic and China, they show a strong and direct relationship between temperature and incoming solar radiation — the data for the US coming directly from Professor Muller’s own BEST data! That such a tight relationship between temperature and solar radiation holds for many disparate geographical areas indicates that the US result cannot be dismissed as just a local aberration. A strong sun-climate relationship requires mechanisms to exist whereby our sun can both cool and warm the Earth. One such mechanism is fluctuations in the total amount of incoming solar energy, but measurements suggest that this is not a dominant effect. Another cause, and probably a more substantial one, is modulation of the amount of solar radiation that reaches earth’s surface by changes in total cloud cover. Recent work by NCAR senior scientists Drs. Harry van Loon and Gerald Meehl has also emphasized a physical relationship between incoming solar radiation and temperature. These scientists argue indirectly that, in testing for this relationship, daytime maximum temperature is the most appropriate criterion to use to characterize the temperature. This measure is available for the US from the BEST data set, and has therefore been used in plotting the accompanying graph below.

The reason why many previous studies have failed to identify a strong sun-temperature link may be that they have used the daily average temperature to represent the temperature component of the relationship. This can easily introduce erroneous complications related to the part of each day when the sun shines on the other hemisphere and darkness prevails at any particular site being studied.
Nevertheless, recent analyses indicate that even small changes in incoming solar radiation can have a strong effect on Earth’s temperature and climate. In 2005, research by one of us (Soon) demonstrated the existence of a strong correlation between solar radiation and the anomalies in average temperature for the Arctic over the past 130 years (below).

Since then, we have demonstrated that similar correlations exist for all of the regions that surround the Arctic, including the US mainland and China.

The reconfirmation now of a strong sun-temperature relation based specifically upon the daytime temperature maxima adds strong and independent scientific weight to the reality of the sun-temperature connection.

The close relationships between the abrupt ups and downs of solar activity and similar changes in temperature that we have identified occur locally in coastal Greenland; regionally in the Arctic Pacific and north Atlantic; and hemispherically for the whole circum-Arctic region. This suggests strongly that changes in solar radiation drive temperature variations on at least a hemispheric scale.

Close correlations like these simply do not exist for temperature and changing atmospheric CO₂ concentration. In particular, there is no coincidence between the measured steady rise in global atmospheric CO₂ concentration and the often dramatic multi-decadal (and shorter) ups and downs of surface temperature that occur all around the world.
Ongoing research in collaboration with Professor David R. Legates of the University of Delaware, provides a self-consistent explanation for these apparent sun-climate correlations. Our hypothesis involves exchanges of heat and moisture between the equator and the Arctic region. Direct evidence now exists that changes in solar activity have influenced what is called the “conveyor-belt” circulation of the great Atlantic Ocean currents over the past 240 years. Interestingly, it transpires that solar-driven changes in temperature, and consequential changes in the volume of freshwater released from the Arctic, cause variations in sea surface temperature in the tropical Atlantic 5-20 years later. That this time lag was not taken into account in earlier sun-climate relationship studies is another reason for their comparative lack of success.

The new peer-reviewed scientific results about sun-climate relationships summarized above are of disparate nature and are obtained with independent datasets stem from several different research groups. Considered together, this new research renders implausible the prevailing assumption that changes in solar activity play no (or only an insignificant) role in climate change.

The hallmark of good science is the testing of plausible hypotheses that are then supported or rejected by evidence gathered from either observation or experiment. The evidence from BEST’s newly analysed data, and from our own and other published studies, is strongly consistent with the hypothesis that solar factors are the major cause of multidecadal climate change, especially in the northern hemisphere circum-Arctic regions.

Incidentally, but importantly, BEST’s own data also clearly invalidate the alternative hypothesis that CO₂ is the most important cause of observed temperature changes across the USA. In a nutshell, climate is always changing and it is the sun what does it.

Willie Soon has been researching the relationship of solar radiation and Earth’s climate at the Harvard-Smithsonian Center for Astrophysics for the past 22 years. William M. Briggs is a meteorology-trained statistician and former associate editor of the Monthly Weather Review. Bob Carter is author of the book Climate: the Counter Consensus, and an Emeritus Fellow of the IPA.

Don Shaw

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• Intervention Engineer, Chevron Drilling & Completions Group
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• Principal, Innovation Scientific, LLC
• ASME Fellow 2011
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Joe Paviglianiti
• ASME IPTI (International Petroleum Technology Institute) Chair
• Technical Leader at the Canadian National Energy Board
• Current chairman of the Canadian Standards Association (CSA) Z662 Technical Subcommittee on Construction

Juan Perez
• Senior Manager of Special Projects – Overpressurization and Transients Program, Enbridge Liquids Pipelines
• Petroleum Engineer with 20 years of experience in exploration, drilling, and pipeline engineering and operations
• Juan’s studies in Project Management, Internal Control and Compliance Techniques, and Finance have afforded him a long and successful career,
including holding eight increasingly complex positions at the main pipeline system in Colombia, OCENSA, which was eventually sold by Enbridge
- Graduate of America University in Columbia

Doug Small P.Eng.
- AMEC, Americas Ltd.
- Mechanical Engineer
- Vice Chair ASME Northern Alberta Section
- Mechanical design and project engineer with over 17 years of technical experience in pressure equipment design and manufacturing
- BS ME University of Alberta

Brian Wagg
- Director, Business Development and Planning, C-FER Technologies
- He has worked at C-FER for 23 years in various engineering and management roles, recently focusing on the pipeline industry.
- He is working closely with industry, researcher and government agencies to build a new organization called the Canadian Pipeline Technology Collaborative, or CPTC, to co-ordinate pipeline research across Canada.

Don Wells
- Sr Subsea Engineering Advisor at Hess Corporation
- Principal Subsea Engineer ConocoPhillips 1981 – 2009
- Texas A&M University BSME, Mechanical Engineering 1974 – 1979
- Don Wells is a Sr. Subsea Engineering Advisor in Hess Corporation's Developments organization supporting their Project and Technology Development needs.
- Prior to joining Hess 4 years ago he worked for Conoco / ConocoPhillips for 27 years where he held Engineering & Management positions on numerous subsea development projects around the world.
- His industry activities include membership in API committee 17, Chairmanship of the Subsea Tieback Foundation, and Chairman of the Petroleum Division of ASME's International Petroleum Technology Institute.

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J. EXTREME WEATHER, CLIMATE CHANGE AND POWER OUTAGES

ABOUT CLIMATE CENTRAL
Climate Central surveys and conducts scientific research on climate change and informs the public of key findings. Our scientists publish and our journalists report on climate science, energy, sea level rise, wildfires, drought, and related topics. Climate Central is not an advocacy organization. We do not lobby, and we do not support any specific legislation, policy or bill. Climate Central is a qualified 501(c)3 tax-exempt organization.
Climate Central scientists publish peer-reviewed research on climate science; energy; impacts such as sea level rise; climate attribution and more. Our work is not confined to scientific journals. We investigate and synthesize weather and climate data and science to equip local communities and media with the tools they need.


SUMMARY
Climate change is causing an increase in many types of extreme weather. Heat waves are hotter, heavy rain events are heavier, and winter storms have increased in both frequency and intensity. To date, these kinds of severe weather are among the leading causes of large-scale power outages in the United States. Climate change will increase the risk of more violent weather and more frequent damage to our electrical system, affecting hundreds of millions of people, and costing Americans and the economy tens of billions of dollars each year.

Climate Central’s analysis of 28 years of power outage data, supplied to the federal government and the North American Electric Reliability Corporation by utilities, shows:

Editor’s Note: Is the above report true? The temperature data stops at 2012. Spencer’s data, below, shows global temperature decreasing since about 2000 AD. GHH

![Temperature Graph]

Joe Miller

K. THE IPCC'S LATEST REPORT DELIBERATELY EXCLUDES AND MISREPRESENTS IMPORTANT CLIMATE SCIENCE

By Joseph Bast

This week, the United Nations’ Intergovernmental Panel on Climate Change (IPCC) is releasing its latest report, the “Working Group II Contribution to the Fifth Assessment Report.” Like its past reports, this one predicts apocalyptic consequences if mankind fails to give the UN the
power to tax and regulate fossil fuels and subsidize and mandate the use of alternative fuels. But happily, an international group of scientists I have been privileged to work with has conducted an independent review of IPCC’s past and new reports, along with the climate science they deliberately exclude or misrepresent.

Our group, called the Nongovernmental International Panel on Climate Change (NIPCC), was founded in 2003 by a distinguished atmospheric physicist, S. Fred Singer, and has produced five hefty reports to date, the latest being released today (March 31).

So how do the IPCC and NIPCC reports differ? The final draft of the IPCC’s Summary for Policymakers identifies eight “reasons for concern” which media reports say will remain the focus of the final report. The NIPCC reports address each point too, also summarizing their authors’ positions in Summaries for Policymakers. This provides a convenient way to compare and contrast the reports’ findings.

Here’s what the reports say:

**IPCC:** “Risk of death, injury, and disrupted livelihoods in low-lying coastal zones and small island developing states, due to sea-level rise, coastal flooding, and storm surges.”

**NIPCC:** “Flood frequency and severity in many areas of the world were higher historically during the Little Ice Age and other cool eras than during the twentieth century. Climate change ranks well below other contributors, such as dikes and levee construction, to increased flooding.”

**IPCC:** “Risk of food insecurity linked to warming, drought, and precipitation variability, particularly for poorer populations.”

**NIPCC:** “There is little or no risk of increasing food insecurity due to global warming or rising atmospheric CO2 levels. Farmers and others who depend on rural livelihoods for income are benefitting from rising agricultural productivity throughout the world, including in parts of Asia and Africa where the need for increased food supplies is most critical. Rising temperatures and atmospheric CO2 levels play a key role in the realization of such benefits.”

**IPCC:** “Risk of severe harm for large urban populations due to inland flooding.”

**NIPCC:** “No changes in precipitation patterns, snow, monsoons, or river flows that might be considered harmful to human well-being or plants or wildlife have been observed that could be attributed to rising CO2 levels. What changes have been observed tend to be beneficial.”


**L. CLAIM: ODDS THAT GLOBAL WARMING IS DUE TO NATURAL FACTORS: SLIM TO NONE**

**Posted on April 11, 2014 by Anthony Watts**

**UPDATE:** a response to this paper has been posted, see below.

From McGill University, who blows the credibility of their science by putting the word “deniers” in it.

*Statistical analysis rules out natural-warming hypothesis with more than 99 percent certainty*

An analysis of temperature data since 1500 all but rules out the possibility that global warming in the industrial era is just a natural fluctuation in the earth’s climate, according to a new study by McGill University physics professor Shaun Lovejoy.

The study, published online April 6 in the journal *Climate Dynamics*, represents a new approach to the question of whether global warming in the industrial era has been caused largely by man-made emissions from the burning of fossil fuels. Rather than using complex computer models to estimate the effects of greenhouse-gas emissions, Lovejoy examines historical data to assess the
competing hypothesis: that warming over the past century is due to natural long-term variations in temperature.


K. LOVEJOY’S 99% ‘CONFIDENCE’ VS. MEASUREMENT UNCERTAINTY

Posted on April 11, 2014 by Guest Blogger

By Christopher Monckton of Brenchley

It is time to be angry at the gruesome failure of peer review that allows publication of papers, such as the recent effusion of Professor Lovejoy of McGill University, which, in the gushing, widely-circulated press release that seems to accompany every mephitically ectoplasmic emanation from the Forces of Darkness these days, billed it thus:

“Statistical analysis rules out natural-warming hypothesis with more than 99 percent certainty.”

One thing anyone who studies any kind of physics knows is that claiming results to three standard deviations, or 99% confidence, requires – at minimum – that the data underlying the claim are exceptionally precise and trustworthy and, in particular, that the measurement error is minuscule.


L. REPORT OFFERS GRIM PREDICTIONS FOR SOUTH TEXAS AIR QUALITY AMID EAGLE FORD OIL BOOM

State-funded study projects dramatic increase in emissions from oil and gas development by 2018.

Jim Morris, Lisa Song and David Hasemyer
Apr 11, 2014

A facility flares in the Eagle Ford Shale's Karnes County. Karnes is one of the four counties expected to see the greatest growth in oil and gas activity in the near future, according to a new study. Credit: Lance Rosenfield/Prime

What might the oil- and gas-rich Eagle Ford Shale region of South Texas look like in 2018? A newly released but largely unnoticed study commissioned by the state of Texas makes some striking projections:

- The number of wells drilled in the 20,000-square-mile region could quadruple, from about 8,000 today to 32,000.
- Oil production could leap from 363 million barrels per year to as much as 761 million.
- Airborne releases of volatile organic compounds (VOCs) could increase 281 percent during the peak ozone season compared to 2012 emissions. VOCs, commonly found at oil and gas production sites, can cause respiratory and neurological problems. Some, like benzene, can cause cancer.
- Nitrogen oxides—which react with VOCs in sunlight to create ground-level ozone, the main component of smog—could increase 69 percent during the peak ozone season.

These projections are included in a study prepared by scientists with the Alamo Area Council of Governments (AACOG) in San Antonio and paid for by the Texas Commission on Environmental Quality (TCEQ). The study was designed to determine the extent to which oil and
gas development in the Eagle Ford region is contributing to rising ozone levels in the San Antonio metropolitan area, which lies north of much of the drilling. San Antonio's ozone readings have violated federal air quality standards since August 2012, making the city vulnerable to sanctions under the Clean Air Act.

The study's findings also have implications beyond San Antonio. In February, the Center for Public Integrity, InsideClimate News and The Weather Channel produced a series of reports about air quality in the Eagle Ford and found that the Texas regulatory system does more to protect the gas and oil industry than the public. The TCEQ has installed only five permanent air monitors in the region, which is nearly twice the size of Massachusetts, and all of them are on the fringes of the shale play, far from the heavy drilling areas where emissions are highest.


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David Sassoon

Regards
George