

ENVIRONMENTAL ENGINEERING NEWSLETTER

29 JULY. 2013

Please be aware any Newsletter URL ending in **020701.pdf** is available for downloading only during the six days following the date of the edition. If you need previous Newsletter entries 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. TOPIC PAPER #27, CARBON CAPTURE & STORAGE (CCS)

On August 1, 2012, The National Petroleum Council (NPC) in approving its report, *Advancing Technology for America's Transportation Future*, also approved the making available of certain materials used in the study process, including detailed, specific subject matter papers prepared or used by the study's Task Groups and/or Subgroups. These Topic Papers were working documents that were part of the analyses that led to development of the summary results presented in the report's Executive Summary and Chapters.

<http://www.eandp-environment.net/Transportation/Transportation020610.pdf>

Arnie Feldman

B. OZONE NAAQS OPINION

The D.C. Circuit just issued its opinion in API's 2008 ozone NAAQS litigation. The court denied the petitions for review of both industry and the states/environmental groups challenging the primary ozone NAAQS. In other words, the court upheld the 0.075 ppm primary standard and is not requiring EPA to lower the NAAQS further. Preventing the environmental groups and states from having the primary NAAQS lowered even further (i.e., to between 0.060 to 0.070 ppm) was one of our primary goals in filing the litigation, so this aspect of the court's opinion is a victory. Unfortunately, however, the court remanded the secondary ozone NAAQS to EPA because it found that EPA had failed to justify setting the secondary standard at the same level as the primary.

The opinion is attached for your review.

Roger Zygmunt

<http://www.eandp-environment.net/Environment/Env020701.pdf>

C. JEWELL STRESSES NEED FOR FEDERAL FRACKING REGULATIONS

Interior Secretary Sally Jewell emphasized the importance of federal regulations covering hydraulic fracturing on public lands during a House Natural Resources Committee hearing. The rules would require disclosure of fracking chemicals and the adoption of water management plans. "Part of my job is to make sure we're watching over the federal estate effectively," Jewell said. "In many cases, the standards don't exist or are very old within states, so we felt they needed to be modernized on federal lands."

<http://fuelfix.com/blog/2013/07/17/jewell-faces-grilling-on-oil-gas-development/>

D. ASME is planning to develop an annual large scale Energy Conference. Its first one is being planned for March 17–19, 2014 in San Diego and will focus on fracking.

Arnold Feldman

D. EPA REDUCES REGULATORY BURDEN FOR INDUSTRIAL FACILITIES USING SOLVENT WIPES

Common-sense exclusion will save industry up to \$27.8 million per year

WASHINGTON - The U.S. Environmental Protection Agency (EPA) modified the hazardous waste management regulations under the Resource Conservation and Recovery Act (RCRA) to conditionally exclude solvent-contaminated wipes from hazardous waste regulations provided that businesses clean or dispose of them properly. The rule is based on EPA's final risk analysis, which was peer reviewed in 2008 and published for public comment in 2009, that concluded wipes contaminated with certain hazardous solvents do not pose significant risk to human health and the environment when managed properly. EPA estimates that the final rule will result in a net savings of between \$21.7 million and \$27.8 million per year.

Wipes are used in conjunction with solvents for cleaning and other purposes by tens of thousands of facilities in numerous industrial sectors, such as printers, automobile repair shops and manufacturers of automobiles, electronics, furniture and chemicals.

"Today's rule uses the latest science to provide a regulatory framework for managing solvent-contaminated wipes that is appropriate to the level of risk posed by these materials," said Mathy Stanislaus, assistant administrator for EPA's Office of Solid Waste and Emergency Response. "I've heard directly from stakeholders about the benefits of this rule and the need to finalize it. The rule reduces costs for thousands of businesses, many of which are small businesses, while maintaining protection of human health and the environment."

Today's final rule excludes wipes that are contaminated with solvents listed as hazardous wastes under RCRA that are cleaned or disposed of properly. To be excluded, solvent-contaminated wipes must be managed in closed, labeled containers and cannot contain free liquids when sent for cleaning or disposal. Additionally, facilities that generate solvent-contaminated wipes must comply with certain recordkeeping requirements and may not accumulate wipes for longer than 180 days.

EPA estimates that the final rule will result in a net savings of \$18 million per year in avoided regulatory costs and between \$3.7 million and \$9.9 million per year in other expected benefits, including pollution prevention, waste minimization and fire prevention benefits.

Today's rule is consistent with President Obama's Executive Order 13563, Improving Regulation and Regulatory Review, which charges federal agencies to monitor regulatory effectiveness and to help make agency regulatory programs more effective or less burdensome in achieving the regulatory objectives.

EPA first proposed modified regulations for solvent-contaminated wipes on November 20, 2003, and published a revised risk assessment for public comment on October 27, 2009. The docket for this rulemaking is EPA-HQ-RCRA-2003-0004 and can be accessed at

<http://www.regulations.gov> once the final rule is published.

More information about this rulemaking:

<http://www.epa.gov/epawaste/hazard/wastetypes/wasteid/solvents/wipes.htm>

Roger Zygmunt

2) HEALTH – A. WEST NILE VIRUS - USA (05): (TEXAS) HUMAN, 2012

Symptoms of the 1st cases of neuroinvasive disease tied to infection with the virus started in June [2012], about a month earlier than usual, and that was followed by a rapid rise in cases, according to Robert Haley, MD, of the University of Texas Southwestern Medical Center in Dallas, and colleagues.

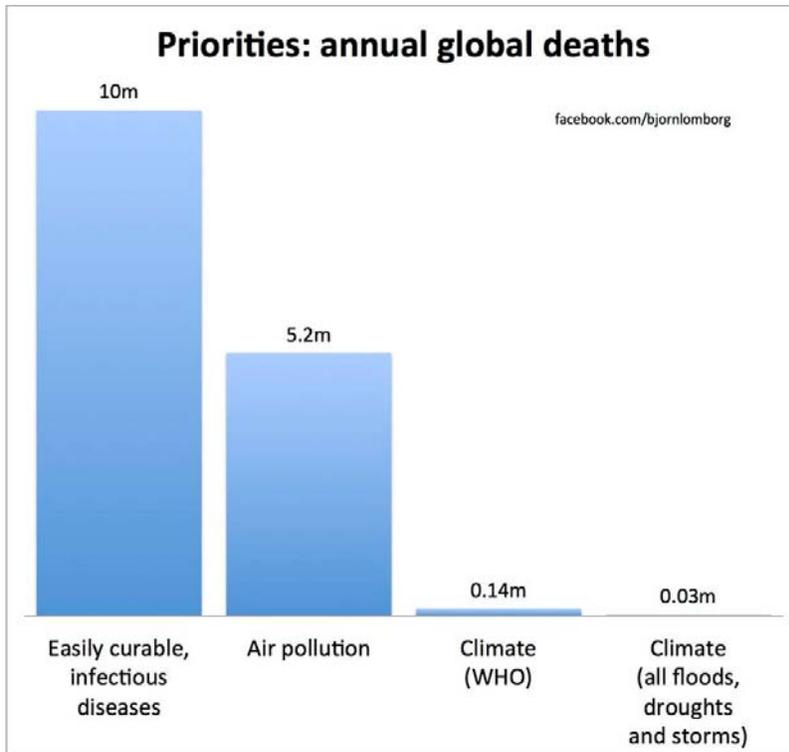
<http://www.eandp-environment.net/Health/Health020701.pdf>

B. LOMBORG: LET'S GET OUR PRIORITIES RIGHT

Posted on [July 20, 2013](#) by [Anthony Watts](#)

By **Bjørn Lomborg** (via his Facebook page)

About a quarter of all deaths in the developing world comes from mostly easily curable, infectious diseases.



The biggest environment problem, by far measured in human deaths, is air pollution. Global warming, which creates a lot of attention, is on an entirely different and smaller level. The World Health Organization estimate (a very maximal estimate) is about one-fortieth of the deaths from air pollution. Even if you assume all deaths from floods, droughts and storms, the number is an even smaller two-hundredth of air pollution.

<http://wattsupwiththat.com/2013/07/20/lomborg-lets-get-our-priorities-right/#more-90194>

3) SAFETY – A. METALLURGICAL TESTING KEY IN GEISMAR PLANT EXPLOSION

GONZALES — A probe into what caused the catastrophic equipment failure leading to a fatal explosion and fire at the Williams Olefins plant in Geismar last month is expected to rely heavily on metallurgical testing, a lead federal investigator said.

Investigators believe the early blast on June 13 started after a heat exchanger failed in a section of the Ascension Parish facility known as a propylene fractionator, where propylene is refined for products like consumer plastics. Two men were fatally burned and 114 were injured

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

B, RAIL SAFETY PRESSURE MOUNTS

In the wake of the deadly oil-train derailment in Quebec this month, the U.S. rail industry is grappling with a safety problem regulators have warned about for years: tank cars that rupture during accidents.

In the wake of the deadly oil-train derailment in Quebec this month, the U.S. rail industry is grappling with a safety problem regulators have warned about for years: tank cars that rupture during accidents.

Two years ago, at the urging of safety investigators, the industry adopted tougher standards. They required newly manufactured tank cars to have more puncture-resistant tanks and tougher shields at the front and back of each car.

<http://www.eandp-environment.net/Transportation/Transportation020610.pdf>

4) TRANSPORTATION: NOTHING OF INTEREST

COMMENTS:

A. THE WEEK THAT WAS: 2013-07-20 (July 20, 2013)

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

Showtime! It's July in Washington – hot and muggy. Time for the Senate's version of Kabuki Theater – a big stylized hearing on global warming by the US Senate Environment and Public Works Committee. Probably unintentionally, the title demonstrated a bit of humor – “**Climate Change: It's Happening Now.**” It's been happening for hundreds of millions of years. Perhaps some senators are catching on. Who says senators cannot learn?

But a funny thing happened to the script – after the witnesses on the first panel spoke, Senator David Vitter (Republican from the oil and gas producing state of Louisiana) asked: “*Can any witnesses say they agree with Obama's statement that warming has accelerated during the past 10 years?*”

Silence, followed by a red herring by a certain witness. Minutes later, Senator Jeff Sessions (Republican, Alabama) followed up with the quote from President Obama and asked: “*Do any of you support that quote?*” Embarrassed silence! Then another red herring that global warming is disappearing in the deep ocean by the same witness. (About 1.52 hours & 2.05 hours in the Senate video.)

Due to prior commitments, SEPP was unable to attend, and focused on the record of the scientific testimony by Roger Pielke, Jr. and Roy Spencer. Unfortunately, they were relegated to the second panel, after many senators left. The complete theater production, including videos, can be found in the links provided.

Pielke gave an excellent seven point summary rebutting the claims that recent extreme events are unusual, more frequent, and causing greater losses than the historic record shows. He went on to say that humans influence climate, including by emissions of carbon dioxide (CO₂), but many claims cannot be substantiated. False claims about extreme weather events can lead to poor decisions and it may take decades, or more, before the human influence can be substantiated.

Spencer appears to be having fun. He identified himself with the 97% of researchers who believe that at least some of the recent warming is human caused. He then proceeded to rebut the claims of the so-called consensus. “*The difficulty in determining the human influence on climate arises from several sources: (1) weather and climate vary naturally, and by amounts that are not currently being exceeded; (2) global warming theory is just that – based upon theory; and (3) there is no unique fingerprint of human caused global warming.*”

Spencer presented evidence that the recent warming happened before, and that the 73 climate models produce far too much warming over the tropics (all exceed the observed warming). Other notable statements include: “*The fact that all of the models have been peer reviewed does not mean that any*

of them have been deemed to have any skill for predicting future temperatures.” He concluded with: “Thus, the evidence that humans are mostly responsible for either recent warmth or severe weather changes (if such changes exist at all) is equivocal, at best.”

At the end of the second panel, Senator Whitehouse (D. RI) tried to bait Pielke and Spencer to make incorrect statements. He brought up Spencer’s religious beliefs, which were entirely inappropriate.

When Senator Session reappeared after a floor vote, Spencer stated we need to analyze what is wrong with the models. We are not getting anywhere with the models emphasizing warming is not occurring. Spencer stated that his recent research emphasizes how much is the human influence on weather and climate.

Senator Whitehouse concluded by dismissing the measurement of carbon dioxide influence on the atmosphere temperatures (where the greenhouse effect takes place) and stated his concern about the oceans. The greenhouse effect takes place in the oceans?

Probably no senators changed their minds from the hearing. But they have been informed that, if they have any integrity, they should not be repeating the administration’s scientifically unsubstantiated claims. Please see links under Showtime!

Climate Plan: According to reports, President Obama’s climate plan is already impacting other countries. The US Export-Import Bank announced it will not provide financing of a 1,200 MW coal-fired power plant in Vietnam. The World Bank, headed by an Obama appointee, announced a new energy strategy plan limiting financing of coal-fired power plants to “rare circumstances.” The World Bank plan will restrict the financing of coal-fired plants to only those countries that have “no feasible alternatives” to coal, whatever that means. The President’s climate plan can be better described as Keeping the Poor, Poor. Please see links under that heading.

Energy Efficiency: The administration has announced plans to implement new energy efficiency requirements on new and existing buildings. This is part of an effort to impose regulations on virtually all things that use energy, including homes, automobiles, appliances, etc. It is an expansion of authoritarian power over the economy, without legislative approval.

Donn Dears has an explanation why many corporations do not reduce the energy costs of their buildings. It is a calculation called Return on Investment (ROI). If the “investment” costs more than what it returns, it is not an investment, but an expense. The British government instituted a plan to increase the energy efficiency of private homes, but failed to realize the homeowners are capable of calculating an ROI and basing it on their cash flow. The plan is failing.

Washington bureaucrats ignore ROI as well. Instead, they will substitute the absurd bureaucratic notion of the Social Cost of Carbon (SCC), which they calculate as they see fit. The SCC has not been approved by the Congress and can be better described as the bureaucratic cost of air plants need. Please see links under Washington’s Control of Energy.

Sustainable Energy: Britain, Spain, and Germany have announced plans to curtail subsidies for green energy. The British government has delayed implementation of a goal for off-shore wind power by about a decade and pushed back the goal of producing 30% of electricity from renewables to 2030 instead of 2020. Also it is considering minimum reliability standards and seeks to ensure power production is 99.97 % reliable within 3 years. Part of the reason given is the promise of extracting natural gas from dense shale. Another key component is the soaring electricity costs and backlash from businesses and voters.

The government of Spain has said, that given the economy, it cannot continue to absorb the costs of subsidizing wind and solar. The German government has announced a cap on the solar power nameplate capacity it will subsidize. The nameplate capacity is the theoretical maximum capacity, not the far lower actual production.

Of course, all politicians are blaming someone else, and the alternative energy industry is howling. But the politicians and bureaucrats have only themselves to blame. They accepted the claims of the green power advocates and failed to do a proper ROI analysis. If they had, they would have realized that, in many cases, ROI was negative.

With the demise of the alternative energy industries, we will see the demise of green jobs, so heavily touted a few years ago. All this supports John Christy's well stated Law of Sustainability: If it's not economically sustainable, it's not sustainable. Perhaps some US politicians will learn from these experiences. Please see links under Questioning European Green, Subsidies and Mandates Forever, and Energy Issues – Non-US.

Erratic Wind: Jo Nova reports that India's Central Electricity Regulatory Commission implemented a solution to the problem of wind power's erratic characteristics placing burdens on other primary generators of electricity. A directive compels wind farms with a nameplate capacity greater than 10 megawatts to forecast their generation for the next day in 15 minute blocks. Wind Farms with estimates more than 30% off forecasts will face penalties. Those generating power by other means must forecast accurately, why should wind be exempt? Needless to say, the wind investors are not overjoyed. Please see link under Alternative, Green ("Clean") Solar and Wind.

IPCC Temperatures Falling? *The Economist* reported it saw the draft of the upcoming Fifth Assessment Report (AR5) by the UN Intergovernmental Panel on Climate Change (IPCC) due out this fall. The article had a table showing estimate of various end of century carbon dioxide (CO2) concentrations and associated temperature increases.

According to the article, CO2 concentrations of 425 to 485 parts per million (ppm) would result in a temperature of 1.3 to 1.7 °C (2.3 to 3.1 °F) above pre-industrial levels. This is within the IPCC's concocted no more than 2 °C (3.6 °F) mantra, which politicians pretend is scientific. Many estimates have the current CO2 at about 390 ppm or about 100 to 110 ppm above the preindustrial level.

According to some estimates, this increase in CO2 resulted in an increase in temperature of about 0.8 °C (1.4 °F). So the next 135 ppm results in an increase in temperatures of about 0.5 °C (0.9 °F), which appears consistent with the greenhouse gas theory that the relationship is logarithmic.

According to the table, a doubling of CO2 to 560 ppm results in a temperature increase of about 2.2 °C (3.96 °F). Of course all this assumes that CO2 is the major driver of climate change. We will have to wait for the final AR5 to see appears. What will be the impact of these new, modest projected increases in temperatures on the EPA's finding that human greenhouse gas emissions, particularly CO2, endanger human health and welfare? Certainly, these changes and this week's Senate hearing raise questions on the EPA's claims of scientific certainty and the validity of the models. Please see link under Problems in the Orthodoxy.

Number of the Week: \$7 Billion. That is the annual budget of the National Science Foundation (NSF). Once a pillar of rigorous empirical science, the NSF has lowered its standards as its budget has expanded. Among other things, it finances studies that analyze the impacts decades from now based on the outputs from un-validated climate models, rather than attempting to validate the climate models, or, at least, thoroughly test the assumptions. For other issues on government financed science please see Article # 1, and for government financed non-profits please see Article #4.

<http://www.sepp.org/twtwfiles/2013/TWTW%207-20-13.pdf>

B. NEWSBYTES: THE ECONOMIST REVEALS SENSITIVE IPCC INFORMATION

Posted on [July 19, 2013](#) by [Anthony Watts](#)

IPCC Draft Lowers Global Warming Projections on Climate Sensitivity

“That report is going to scare the wits out of everyone,” said Yvo de Boer recently. He is a former United Nations chief climate negotiator and was talking about the forthcoming fifth assessment by the Intergovernmental Panel on Climate Change (IPCC). With two months to go before the assessment is to be published, however, one sign suggests it might be less terrifying than it could have been. [The draft IPCC report] seems to reflect a growing sense that climate sensitivity may have been overestimated in the past and that the science is too uncertain to justify a single estimate of future rises. If this does turn out to be the case, it would have significant implications for policy. –[The Economist, 20 July 2013](#)

The next United Nations climate report will “scare the wits out of everyone” and should provide the impetus needed for the world to finally sign an agreement to tackle global warming, the former head of the UN negotiations said. Yvo de Boer, the UN climate chief during the 2009 Copenhagen climate change talks, said his conversations with scientists working on the next report of the Intergovernmental Panel on Climate Change suggested the findings would be shocking. “That report is going to scare the wits out of everyone,” Mr de Boer said in the only scheduled interview of his visit to Australia. “I’m confident those scientific findings will create new political momentum.” –Peter Hannam, [Brisbane Times, 7 November 2012](#)

The wave of new evidence of low climate sensitivity has presented the IPCC with a dilemma. They could try to bluff it out, an approach that could be terminal given the widespread reporting of the new science in the media. Alternatively they could ‘fess up’. This too could be extremely damaging, but perhaps might not be the end of them. Being good bureaucrats they have gone for the option that is most likely to lead to their survival. –Andrew Montford, [Bishop Hill, 18 July 2013](#)

Lower gear?	
Carbon concentrations and future temperature rises	
CO₂ emissions, parts per million	Temperature above pre-industrial levels in 2100, °C
425-485	1.3-1.7
485-535	1.7-2.2
535-585	2.0-2.4
585-710	2.3-3.0
710-1000	3.0-4.0
>1000	>4.0

Source: IPCC

At CO₂ concentrations of between 425 parts per million and 485 ppm, temperatures in 2100 would be 1.3-1.7°C above their pre-industrial levels. That seems lower than the IPCC’s previous assessment, made in 2007. Then, it thought concentrations of 445-490 ppm were likely to result in a rise in temperature of 2.0-2.4°C. –[The Economist, 20 July 2013](#)

Rapid melting of polar ice sheets may be due to short-lived natural events rather than climate change, scientists said. New research suggests more time is needed to predict the likely impact of global warming and ice loss on sea levels. –John von Radowitz, [AFP, 15 July 2013](#)

It is misleading, and just plain incorrect, to claim that disasters associated with hurricanes, tornadoes, floods or droughts have increased on climate timescales either in the United States or

globally. It is further incorrect to associate the increasing costs of disasters with the emission of greenhouse gases. –Roger Pielke Jr., testimony to the [US Senate, 18 July 2013](#)

A paper published by the Danish Meteorological Institute finds a remarkable correlation of Arctic sea ice observations over the past 500 years to “the solar cycle length, which is a measure of solar activity. A close correlation of high significance is found between the two patterns, suggesting a link from solar activity to the Arctic Ocean climate.” The paper adds to several others demonstrating that Arctic sea ice extent and climate is controlled by natural variations in solar activity, ocean & atmospheric oscillations, winds & storm activity, not man-made CO2. – [The Hockey Schtick, 17 July 2013](#)

Current general circulation climate models (GCM) to be used in the AR5 IPCC Report in 2013, fail to reconstruct observed climatic oscillations. The proposed empirical model outperforms the GCMs by better hind-casting the observed 1850-2012 climatic patterns. It is found that: about 50-60% of the warming observed since 1850 and since 1970 was induced by natural oscillations likely resulting from harmonic astronomical forcings that are not yet included in the GCMs. – Nicola Scafetta, [Solar and planetary oscillation control on climate change](#).

The science journal Nature said only last week that the global temperature standstill “is one of the biggest mysteries in climate science.” Just like in Monty Python’s Spanish Inquisition nobody expected the current standstill in global surface temperature. –David Whitehouse, [The Observatory, 19 July 2013](#)

Thanks to [The GWPF](#) and Dr. Benny Peiser for this compilation.

C. JUNE 2013 GLOBAL SURFACE (LAND+OCEAN) TEMPERATURE ANOMALY UPDATE

Posted on [July 19, 2013](#) by [Bob Tisdale](#)

Initial Notes: This post contains graphs of running trends in global surface temperature anomalies for periods of 12+ and 16 years using HADCRUT4 data. They indicate that we have not seen a warming hiatus this long since about 1980.

Much of the following text is boilerplate. It is intended for those new to the presentation of global surface temperature anomaly data.

GISS LAND OCEAN TEMPERATURE INDEX (LOTI)

Introduction: The GISS Land Ocean Temperature Index (LOTI) data is a product of the [Goddard Institute for Space Studies](#). Starting with their January 2013 update, it uses [NCDC ERSST.v3b sea surface temperature data](#). The impact of the recent change in sea surface temperature datasets is discussed [here](#). GISS adjusts GHCN and other land surface temperature data via a number of methods and infills missing data using 1200km smoothing. Refer to the GISS description [here](#). Unlike the UK Met Office and NCDC products, GISS masks sea surface temperature data at the poles where seasonal sea ice exists, and they extend land surface temperature data out over the oceans in those locations. Refer to the discussions [here](#) and [here](#). GISS uses the base years of 1951-1980 as the reference period for anomalies. The data source is [here](#).

<http://wattsupwiththat.com/2013/07/19/june-2013-global-surface-landocean-temperature-anomaly-update/#more-90169>

D. REMARKABLE CORRELATION OF ARCTIC SEA ICE TO SOLAR CYCLE LENGTH

Posted on [July 18, 2013](#) by [Anthony Watts](#)

This is interesting, especially since Solar Cycle 23 was quite long.

The Hockey Schtick writes:

A paper published by the Danish Meteorological Institute finds a remarkable correlation of Arctic sea ice observations over the past 500 years to “the solar cycle length, which is a measure of solar activity. A close correlation ($R=0.67$) of high significance (0.5 % probability of a chance occurrence) is found between the two patterns, suggesting a link from solar activity to the Arctic Ocean climate.” The paper adds to several others demonstrating that Arctic sea ice extent and climate is [controlled by natural variations in solar activity, ocean & atmospheric oscillations, winds & storm activity](#), not man-made CO₂.

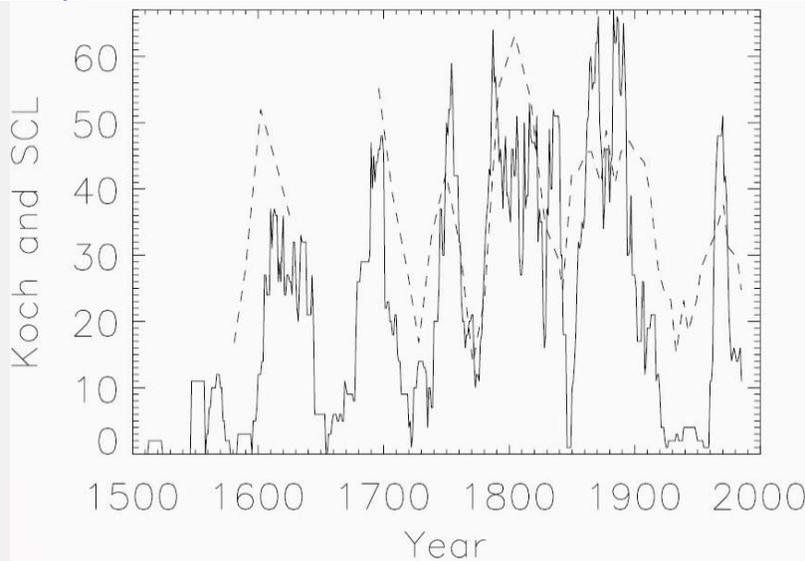


Figure 1.5 Solar Cycle Length [SCL] shown by dotted line, Koch sea ice extent index from observations in the Greenland Sea shown by solid line.

The paper: [Continue reading](#) →

E. Senate Hearing “Climate Change, It’s Happening Now” July 2013

Posted on [July 18, 2013](#) by [Anthony Watts](#)

<http://wattsupwiththat.com/2013/07/18/watch-senate-climate-hearing-live/>

F. DOE STUDY: FRACKING CHEMICALS DIDN'T TAINT WATER

PITTSBURGH (AP) — A landmark federal study on hydraulic fracturing, or fracking, shows no evidence that chemicals from the natural gas drilling process moved up to contaminate drinking water aquifers at a western Pennsylvania drilling site, the [Department of Energy](#) told [The Associated Press](#).

After a year of monitoring, the researchers found that the chemical-laced fluids used to free gas trapped deep below the surface stayed thousands of feet below the shallower areas that supply drinking water, geologist [Richard Hammack](#) said.

Although the results are preliminary — the study is still ongoing — they are the first independent look at whether the potentially toxic chemicals pose a threat to people during normal drilling operations. But DOE researchers view the study as just one part of ongoing efforts to examine the impacts of a recent boom in oil and gas exploration, not a final answer about the risks.

Drilling fluids tagged with unique markers were injected more than 8,000 feet below the surface at the gas well bore but weren't detected in a monitoring zone at a depth of 5,000 feet. The researchers also tracked the maximum extent of the man-made fractures, and all were at least 6,000 feet below the surface.

That means the potentially dangerous substances stayed about a mile away from surface drinking water supplies, which are usually at depths of less than 500 feet.

"This is good news," said [Duke University](#) scientist [Rob Jackson](#), who was not involved with the study. He called it a "useful and important approach" to monitoring fracking, but he cautioned that the single study doesn't prove that fracking can't pollute, since geology and industry practices vary widely in Pennsylvania and across the nation.

The boom in gas drilling has led to tens of thousands of new wells being drilled in recent years, many in the Marcellus Shale formation that lies under parts of Pennsylvania, New York, Ohio and West Virginia. That's led to major economic benefits but also fears that the chemicals used in the drilling process could spread to water supplies.

The mix of chemicals varies by company and region, and while some are openly listed the industry has complained that disclosing special formulas could violate trade secrets. Some of the chemicals are toxic and could cause health problems in significant doses, so the lack of full transparency has worried landowners and public health experts.

Over the last four years the debate over fracking chemicals has attracted tremendous attention from state and federal agencies, public health experts, and opponents of fracking. Yet while many people have focused on the potential threat from the chemicals, experts have come to believe that more routine aspects of the drilling process are more likely to cause problems. Poor well construction that allows excess gas to escape, spills of chemicals or other fluids that take place at the surface, and disposal of wastewater are all issues of concern.

Jackson said most of the problems that the Duke researchers have seen have been related to well construction, not fracking chemicals.

The study done by the [National Energy Technology Laboratory](#) in Pittsburgh marked the first time that a drilling company let government scientists inject special tracers into the fracking fluid and then continue regular monitoring to see whether it spread toward drinking water sources.

The research is being done at a drilling site in Greene County, which is southwest of Pittsburgh and adjacent to West Virginia.

Eight Marcellus Shale wells were monitored seismically and one was injected with four different man-made tracers at different stages of the fracking process, which involves setting off small explosions to break the rock apart. The scientists also monitored a separate series of older gas

wells that are about 3,000 feet above the Marcellus to see if the fracking fluid reached up to them.

The industry and many state and federal regulators have long contended that fracking itself won't contaminate surface drinking water because of the extreme depth of the gas wells. Most are more than a mile underground, while drinking water aquifers are usually close to the surface.

[Kathryn Klaber](#), CEO of the industry-led [Marcellus Shale Coalition](#), called the study "great news."

"It's important that we continue to seek partnerships that can study these issues and inform the public of the findings," Klaber said.

While the lack of contamination is encouraging, Jackson said he wondered whether the unidentified drilling company might have consciously or unconsciously taken extra care with the research site, since it was being watched. He also noted that other aspects of the drilling process can cause pollution, such as poor well construction, surface spills of chemicals and wastewater. Jackson and his colleagues at Duke have done numerous studies over the last few years that looked at whether gas drilling is contaminating nearby drinking water, with mixed results. None has found chemical contamination but they did find evidence that natural gas escaped from some wells near the surface and polluted drinking water in northeastern Pennsylvania.

[Scott Anderson](#), a drilling expert with the [Environment Defense Fund](#), said the results sound very interesting.

"Very few people think that fracking at significant depths routinely leads to water contamination. But the jury is still out on what the odds are that this might happen in special situations," Anderson said.

One finding surprised the researchers: Seismic monitoring determined one hydraulic fracture traveled 1,800 feet out from the well bore; most traveled just a few hundred feet. That's significant because some environmental groups have questioned whether the fractures could go all the way to the surface.

The researchers believe that fracture may have hit naturally occurring faults, and that's something both industry and regulators don't want.

"We would like to be able to predict those areas" with natural faults and avoid them, Hammack said.

Jackson said the 1,800-foot fracture was interesting but noted it is still a mile from the surface. The DOE team will start to publish full results of the tests over the next few months, said Hammack, who called the large amount of field data from the study "the real deal."

"People probably will be looking at the data for years to come," he said.

On Friday, DOE spokesman David Anna added that while nothing of concern has been found thus far, "the results are far too preliminary to make any firm claims."

G. WATCH YESTERDAY'S BLOCKBUSTER PERFORMANCE BY DR. ROGER PIELKE JR. AND DR. ROY SPENCER AT SENATE CLIMATE HEARING

Posted on [July 19, 2013](#) by [Anthony Watts](#)

'Senate global warming hearing backfires on Democrats' — Boxer's Own Experts Contradict Obama! — 'Skeptics & Roger Pielke Jr. totally dismantled warmism (scientifically, economically, rhetorically) — Climate Depot Round Up

‘Sen. Boxer’s Own Experts Contradict Obama on Climate Change’ — **Warmists Asked: ‘Can any witnesses say they agree with Obama’s statement that warming has accelerated during the past 10 years?’** For several seconds, nobody said a word. Sitting just a few rows behind the expert witnesses, I thought I might have heard a few crickets chirping’

<http://wattsupwiththat.com/2013/07/19/watch-yesterdays-blockbuster-performance-by-dr-roger-pielke-jr-and-dr-roy-spencer-at-senate-climate-hearing/>

H. HEIDI CULLEN AT SENATE EPW: ‘73% INCREASE IN HEAVY DOWNPOURS’ NOT SUPPORTED BY DATA

Posted on July 18, 2013 by Anthony Watts



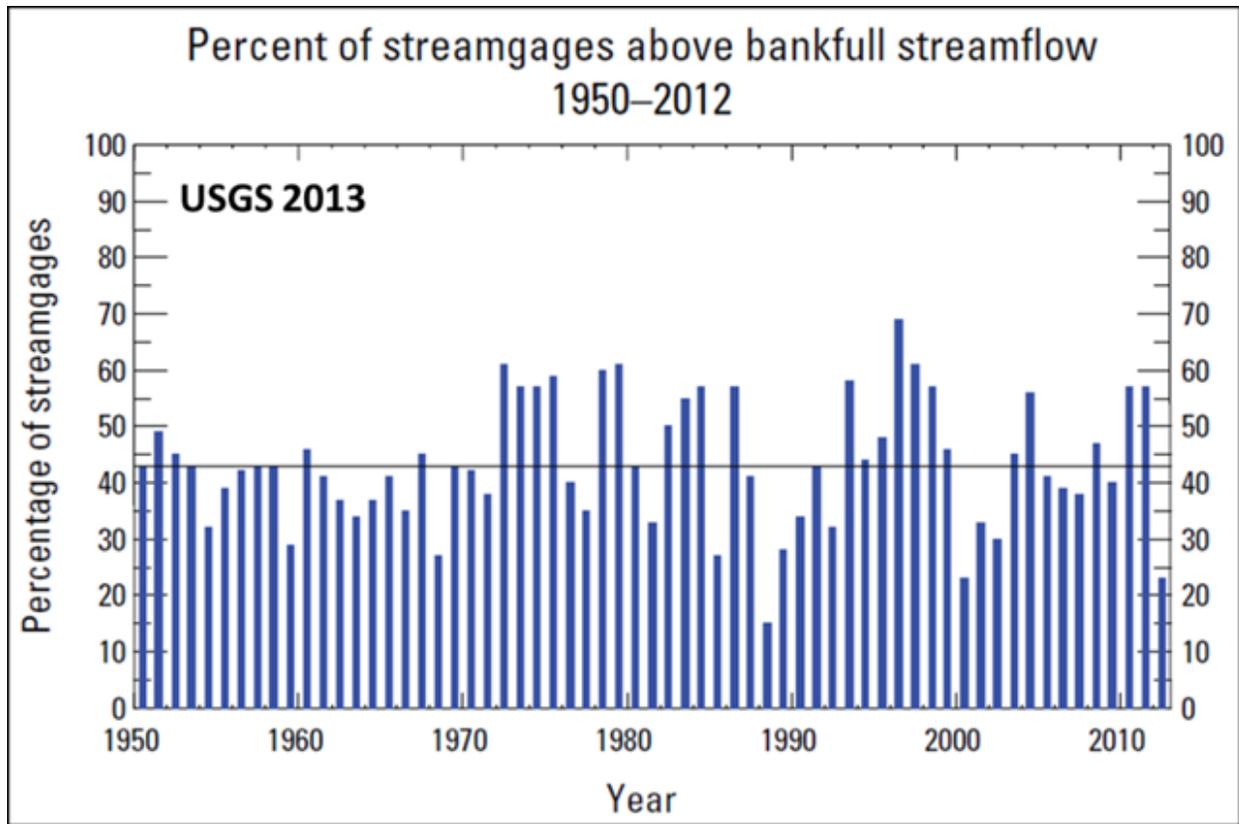
While watching her handwaving argument on the webcast with Senator Vitter, I was easily able to find data contradictory to her statement in Dr. Roger Roger Pielke Jr. submitted testimony. What the data says:

5. Floods have not increased in the US in frequency or intensity since at least 1950.

Figure 5. One measure of flood frequency from the USGS, percent of US streamganges above “bankfull streamflow.” The USGS explains: “The bankfull streamflow is defined as the highest daily mean streamflow value expected to occur, on average, once in every 2.3 years.” Xiaodong Jian, David M. Wolock, Harry F. Lins, and Steve Brady, Streamflow of 2012—Water Year Summary, U.S. Geological Survey, Reston, Virginia, May 2013.

Live video here: [Live Webcast – Flash](#)

<http://wattsupwiththat.com/2013/07/18/heidi-cullen-at-senate-epw-73-increase-in-heavy-downpours-not-supported-by-data/#more-90132>



I. DEPARTMENT OF ENERGY RELEASES NEW REPORT ON ENERGY SECTOR VULNERABILITIES

The U.S. Department of Energy (DOE) has released a new report that assesses how America's critical energy and electricity infrastructure is vulnerable to the impacts of (**LOCAL**) climate change. The "U.S. Energy Sector Vulnerabilities to Climate Change and Extreme Weather" report notes that annual temperatures across the United States have increased by about 1.5°F over the last century. In fact, 2012 was both the warmest year on record in the contiguous United States and saw the hottest month since the country started keeping records in 1895. (**MAYBE, FOR POORLY MAINTAINED US WEATHER STATIONS. CLIMATE CHANGE REFERS MORE THAN JUST THE USA. GHH**)

The implications for America's energy infrastructure include:

- Increased risk of temporary partial or full shutdowns at thermoelectric (coal, natural gas, and nuclear) power plants because of decreased water availability for cooling and higher ambient and air water temperatures.
- Reduced power generation from hydroelectric power plants in some regions and seasons due to drought and declining snowpack.

- Risks to energy infrastructure located along the coast from sea level rise, increasing intensity of storms, and higher storm surge and flooding -- potentially disrupting oil and gas production, refining, and distribution, as well as electricity generation and distribution.
- Amplified risks of physical damage to power lines, transformers and electricity distribution systems from hurricanes, storms and wildfires.
- Increased risks of disruption and delay to fuel transport by rail and barge during more frequent periods of drought and flooding that affect water levels in rivers and ports.
- Higher air conditioning costs and risks of blackouts and brownouts in some regions if the capacity of existing power plants does not keep pace with the growth in peak electricity demand due to increasing temperatures and heat waves.

In addition to identifying critical areas at risk from climate change and extreme weather, the report also identifies activities already underway to address these challenges, and discusses potential opportunities to make the energy sector more resilient. Potential future opportunities for federal, state, and local governments could include innovative policies that broaden the suite of available climate-resilient energy technologies and encourage their deployment, improved data collection and models to better inform researchers and lawmakers of energy sector vulnerabilities and response opportunities, and enhanced stakeholder engagement.

The full report is available at: <http://energy.gov/downloads/us-energy-sector-vulnerabilities-climate-change-and-extreme-weather>

J. IMPACT OF CONTINENTAL MASS CHANGE ON RATE-OF-RISE OF SEA LEVEL (9 JUL 2013)

New findings indicate the rate of sea level rise over the past two decades in on the order of 1.7 ± 0.8 mm/year, which is far less than that projected by climate alarmists...

<http://www.nipccreport.org/articles/2013/jul/9jul2013a1.html>

K. OBAMA IGNORES KEY FACTS IN CLIMATE SPEECH

In President Obama's June 25 speech on climate change at Georgetown University, he said, "I'm directing the Environmental Protection Agency to put an end to the limitless dumping of carbon pollution from our power plants and complete new pollution standards for both new and existing power plants." Ignoring key facts regarding climate change (such as that carbon dioxide is not pollution but is in fact essential to life on the planet), Obama also called for expanded efforts to use "clean energy" and for the U.S. to lead the world in bold actions to "combat climate change."

<http://news.heartland.org/newspaper-article/2013/07/17/obama-ignores-key-facts-climate-speech>

http://online.wsj.com/article/SB10001424127887324263404578612112672846522.html?mod=dist_smart_brief

L. PRAIRIE CHICKEN MAY CURTAIL US OIL PRODUCTION, RAISE OIL PRICES

"SLAPOUT, Okla.—The rolling prairies around this tiny ranch town in the Oklahoma Panhandle might soon be home to an experiment aimed at preserving the habitat of both football-sized fowl and oil-drilling rigs."

"The area occupied by the brownish birds, known as lesser prairie chickens, spans portions of five states but has shrunk so much that the federal government has said it might classify them as threatened or endangered as early as March. Such a listing would complicate companies' efforts to develop large oil deposits under the grassland where the birds like to nest. "

"Ranchers, oil firms and environmentalists suggest a 'habitat exchange' as the government weighs listing the lesser prairie chicken as endangered."

"Whether or not the bird is placed on a threatened or endangered species list, ranchers and oil companies, along with the Environmental Defense Fund, are pitching a free-market solution to help both bird and industry thrive: a "habitat exchange."

"The proposal is meant to benefit all parties by creating a "stock exchange" of sorts, said David Festa, vice president of the land, water and wildlife program at the environmental nonprofit. Under the exchange plan, ranchers would generate credits by taking steps to protect the bird's habitat, such as tearing out invasive juniper trees or letting land revert to grassland."

"Talking to ranchers, they say, 'There is a lot we can do, but why would we do that for free?' " Mr. Festa said."

"The plan—which must be approved by the U.S. Fish and Wildlife Service, part of the Interior Department—would be the biggest effort to date to use a "cap-and-trade" approach to habitat preservation. A similar exchange was first tried in central Texas about a decade ago to protect the golden-cheeked warbler, and more recently with a small lizard in west Texas. But the lesser prairie chicken's habitat spans Colorado, Kansas, New Mexico, Oklahoma and Texas."

"Some regional wildlife officials argue the lesser prairie chicken population is stable and doesn't deserve special protection—and federal steps to protect the bird could slow oil and gas ..."

"The federal government has said the bird faces an uncertain future because of declining habitat size; a spokeswoman for the Interior Department declined to comment, citing the pending decision."

"Much of the chickens' habitat is on private land, owned and worked by cattlemen like Alan Jett, whose family's ranch is outside Slapout, about 185 miles northwest of Oklahoma City.

http://online.wsj.com/article/SB10001424127887324263404578612112672846522.html?mod=dist_smart_brief

Don Shaw

M. CIA WANTS TO CONTROL THE WEATHER, CLIMATE CHANGE

The CIA is funding a study examining various ways mankind can geo-engineer the planet -- blocking or limiting the sunlight that reaches the Earth, stripping carbon dioxide from the skies, seeding the clouds and so on.

The project, a panel called "[Geoengineering Climate](#) ⇨: Technical Evaluation and Discussion of Impacts," is backed by the National Academy of Sciences, the National Oceanic and Atmospheric Administration (NOAA), NASA -- and the U.S. intelligence community.

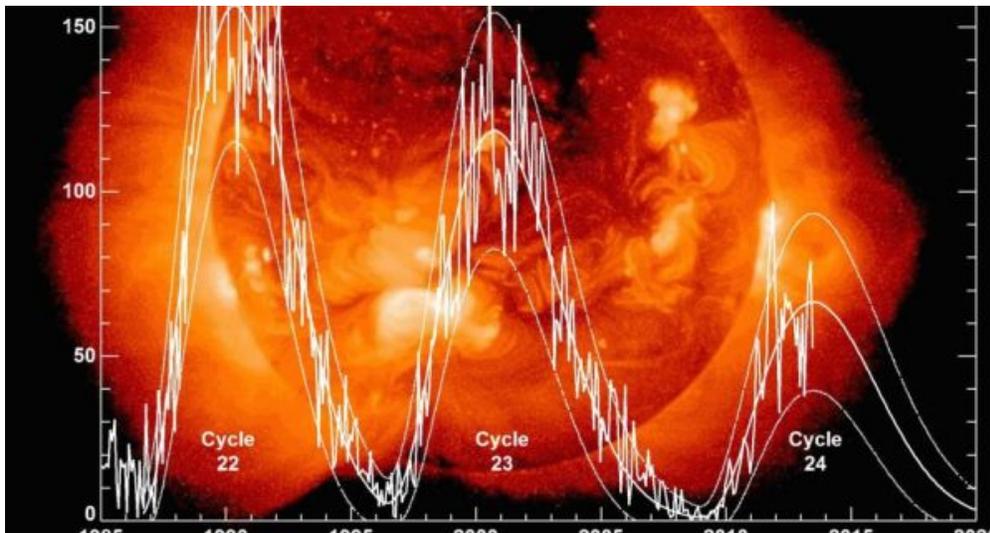
<http://www.foxnews.com/science/2013/07/23/cia-wants-to-control-weather-climate-change/?test=latestnews>

N. NEWSBYTES: SUN'S BIZARRE ACTIVITY MAY TRIGGER ANOTHER LITTLE ICE AGE (OR NOT)

Posted on [July 15, 2013](#) by [Anthony Watts](#) from [the GWPF](#) and Dr. Benny Peiser

“Weakest Solar Cycle In Almost 200 Years”

The sun is acting bizarrely and scientists have no idea why. Solar activity is in gradual decline, a change from the norm which in the past triggered a 300-year-long mini ice age. We are supposed to be at a peak of activity, at solar maximum. The current situation, however, is outside the norm and the number of sunspots seems in steady decline. The sun was undergoing “bizarre behaviour” said Dr Craig DeForest of the society. “It is the smallest solar maximum we have seen in 100 years,” said Dr David Hathaway of NASA. –Dick Ahlstrom, [The Irish Times, 12 July 2013](#)



<http://wattsupwiththat.com/2013/07/15/newsbytes-suns-bizarre-activity-may-trigger-another-little-ice-age-or-not/#more-89827>

**Regards
George**