

# The Week That Was: 2012-07-07 (July 7, 2012) Brought to You by SEPP ([www.SEPP.org](http://www.SEPP.org)) The Science and Environmental Policy Project

#####

## Quote of the Week:

*“a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over considerable time periods.”* Article 1 of the UN Framework Convention on Climate Change [H/t Tim Ball]

#####

## Number of the Week: 32%

#####

## THIS WEEK:

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

**Summertime:** It is summer in the US and the global warming chorus is in full voice. As explained by Tim Ball linked in last week’s TWTW, the Rossby waves associated with the circumpolar vortex and jet streams have become very pronounced. This results in a blocking – slower movement of pressure systems from west to east. A high pressure system is stalled over the eastern US, resulting in a series of hot days. This is similar to what happened in Russia in 2010. As was the case in 2010, the chorus is blaming global warming / climate change with prophesies that this is the future if carbon dioxide emissions continue. In the winter of 2010, the chorus called the unusual cold as normal weather change. And the members of the chorus wonder why the public is becoming increasingly skeptical towards global warming / climate change.

Although it has been hot for some, the actual data does not confirm that June was unusually hot.

As a side note, the hot days in the East came immediately after a derecho knocked out electricity for over one million people, in some cases for over a week. In the Mid-Atlantic States, a summertime high pressure system results in little air movement – insufficient to generate electricity from wind turbines. So we may be experiencing the future if those who demand solar and wind power are politically successful.

Please see links under Communicating Better to the Public – Exaggerate, or be Vague?, Communicating Better to the Public – Make things up, Models v. Observations, and Changing Weather

\*\*\*\*\*

**Forest Fires:** The forest fires in Colorado have been unusually severe. According to a Washington Post article, the Undersecretary of Agriculture who oversees the Forest Service blames these fires on global warming / climate change. At the request of Gordon Fulks, professional forestry consultant Mike Dubrasich prepared an essay on Pine Beetles, Fire, and Global Warming. The temperature trend in the Rockies is one of cooling, not warming. The destruction of the forests is more a result of Forest Service (environmental) mismanagement, than any other single factor. Nature can be a brutal manager of natural assets. In 1988, when the Park Service set controlled burns that ran out of control and burnt over one-third of the forests in Yellowstone, it did not have global warming / climate change to hide behind. Please see Article #1 and links under Communicating Better to the Public – Exaggerate, or be Vague?

\*\*\*\*\*

**Transparency:** The Royal Society Report suggesting that both data and codes should be archived is a positive step, but will such a proposal be enforced by government funding agencies? Steve McIntyre states that track record of the US National Science Foundation is very uneven. This is inexcusable. The funds used are public money. There are no national security issues in making climate science transparent. As seen with the hockey-stick, studies must be reproducible if they are to be accepted.

On a similar issue, Chris Horner of the American Tradition Institute reports that during their efforts to have public records released under the Freedom of Information Act (FOIA), a significant element has appeared. The Union of Concerned Scientists (UCS) is organizing efforts to resist FOIA requests for some but not for all. Please see links under Climategate Continued. Does the dog of Anthon Watts, a member of UCS, have any comments?  
\*\*\*\*\*

**IPCC:** Rajendra Pachauri, the chairman of the Intergovernmental Panel for Climate Change (IPCC), has made it clear that the IPCC is a political pressure group, not a scientific organization. He has called for the general public to support IPCC claims in order to bypass governments that do not fully accept them. This comes after announcements that lead authors will not be selected by merit alone, but by geographical preferences, and that the IPCC will accept grey literature, such as articles by environmental groups, which it did in the last report but claimed it did not. What this will do to the claims that only accepted climate scientists can understand climate science remains to be seen. Please see links under Expanding the Orthodoxy.  
\*\*\*\*\*

**Australia:** July 1 marked the implementation of a carbon tax in Australia, something which the Prime Minister Gillard asserted would not happen if she is elected. Please see links under Cap-and-Trade and Carbon Taxes.  
\*\*\*\*\*

**Nobel Conference:** A conference of Nobel laureates became unsettling to some when Ivar Giaever gave his talk, The Strange Case of Global Warming. One could quibble if there has been cooling over the past 15 years, but certainly there has not been a warming trend as forecast by the models. Please see links under Challenging the Orthodoxy.  
\*\*\*\*\*

**Oil Prices:** An article in the Financial Post (Canada) gives estimates of the cost of production for various countries and situations. The precision of the numbers is unrealistic, but the order is important. For example, it costs about \$22 to produce a barrel of oil in Saudi Arabia, \$43 in Libya, \$59 in the Bakken Formation in the US, \$62 in the deepwater of the Gulf of Mexico, \$66 off Norway, and \$87 in Venezuela (heavy oil). Canadian oil sands may range from \$55 to \$108, depending on the methods of extraction. This is useful, but not complete.

The article takes the analysis one step further – what do various nations, with state controlled companies need to meet their budget goals? This can range from \$55 in Kuwait, \$78 in Saudi Arabia, \$116 in Russia to a high of \$127 in Bahrain.

If the numbers are reasonably close, then many countries cannot afford low oil prices. Please see links under Energy Issues – General.  
\*\*\*\*\*

**Green Jobs:** Last week, TWTW linked to a study for US House Committee on Energy and Commerce that reported that the \$8 Billion in subsidies given to solar and wind industry under Section 1603 directly produced about 910 jobs on an annual basis for the life of the systems. This is far below that promised. The Bureau of Labor Statistics has no precise classification of a green job, so even bus drivers are counted as indirect green jobs, rendering the concept meaningless. But this does not explain why job creation from building wind farms is not occurring as promised.

Most jobs for wind farms are temporary construction jobs and few are long term. Further, the promised general prosperity is not materializing. A major problem is incomplete Keynesian analysis. Usually, only the impact of the construction phase is emphasized, and what happens when the construction phase is over is not carefully analyzed. A simple explanation is in order.

Suppose a government wishes to spend a 100 million of its currency to stimulate the economy. It has three alternative projects, all of which are heavily loaded in construction with little long term costs thereafter and all produce roughly the same indirect effects. One alternative is building a hydroelectric dam to provide electricity where there is none. A second alternative is to build a monument, say a pyramid in the desert. And the third alternative is to build wind farms to replace coal-fired power plants with mandates to utilities to buy the electricity from wind farms as the highest priority. The last alternative describes what many Western countries are doing.

After construction, the hydroelectric dam will provide low cost electric power to those who do not have it and will become a positive asset to the region. After construction, the pyramid becomes economically neutral; it may or may not attract tourists. After construction, the wind farms become an economic liability to the region, an economic drain.

Wind farms become an economic drain because wind is unreliable and the wind farms require extensive back-up on order for electric utilities to supply reliable power. Contrary to initial expectations that the need for back-up will diminish as wind supplies a greater percent of the power, experience in a number of countries shows that the need for back-up does not diminish. Wind farms may be required for 80 to 100% of the installed capacity of the wind. The coal plants are not replaced and utilities will be forced to charge customers for two electricity production systems. Businesses will face increasing costs and households, with higher utility bills, will face a reduction of their disposable income and a lower standard of living.

The above is very simplistic, but illustrates that not all government spending increases the general prosperity of the region or the nation.

\*\*\*\*\*

**Number of the Week: 32%.** According to the US Energy Information Administration, in April, almost equal amounts of electricity were produced using coal and natural gas, each accounting for 32% of electricity generation in the nation. This is a one-month statistic and will not necessarily hold for the entire year. However, the trend is clear. Thanks to hydraulic fracturing, natural gas is plentiful and prices are very low. Utilities can afford to burn it. In the late 1970s, it was so scarce that the US government outlawed its use as a boiler fuel. As late as 2008, natural was use to generate 21% and coal 48% of US electricity.

We are in an energy revolution that has defied regulators. No wonder many in Washington are determined to regulate hydraulic fracturing.

As a side note, some analysts are projecting that by year end US carbon dioxide emissions will decline to where they were in 1990, without direct regulation. The sharp recession and prolonged, slow recovery are a major influence on the decline of emissions, but the energy revolution is as well. Today, unemployment continues at an unusually high at 8.2%. The U-6, which includes those who have given up looking for work and those working part-time who wish for a full time job, stands at 14.8%. Please see links under Oil and Natural Gas – the Future or the Past?

\*\*\*\*\*

**Quote of the Week:** The definitions used by the UN, and its cohorts, create logical impossibilities. Under this framework, as atmospheric carbon dioxide increases, one cannot logically prove that climate change is not the result of human influence. This corruption of language, logic, and science will continue until governments reject it. Please see: <http://drtimball.com/2012/climate-change-of-the-ipcc-is-daylight-robberyclimate-change-of-the-ipcc-is-daylight-robbery/>

#####

### **ARTICLES:**

For the numbered articles below please see this week's TWTW at: [www.sepp.org](http://www.sepp.org). The articles are at the end of the pdf.

### 1. Pine Beetles, Fire, and Global Warming

By Mike Dubrasich, Western Institute for Study of the Environment, July 8, 2012 [H/t Gordon Fulks]  
[http://www.sepp.org/key\\_issues/Pine-Beetles.pdf](http://www.sepp.org/key_issues/Pine-Beetles.pdf)

### 2. A Fracking Rule Reprieve

Next year comes the federal deluge.

Editorial, WSJ, Jun 29, 2012

[http://online.wsj.com/article/SB10001424052702304870304577490680003198686.html?mod=ITP\\_opinion\\_2](http://online.wsj.com/article/SB10001424052702304870304577490680003198686.html?mod=ITP_opinion_2)

### 3. Smashing Success

The Higgs boson breakthrough marks a beginning, not an end.

Editorial, WSJ, Jul 4, 2012

[http://online.wsj.com/article/SB10001424052702303962304577506741737994650.html?mod=ITP\\_opinion\\_2](http://online.wsj.com/article/SB10001424052702303962304577506741737994650.html?mod=ITP_opinion_2)

#####

### NEWS YOU CAN USE:

#### *Commentary: Is the Sun Rising?*

#### **Scientists Say A Grand Episode In Solar Activity Started in 2008 – But No Support For A Grand (Maunder-Type) Minimum**

By P. Gosselin, No Tricks Zone, Jul 4, 2012 [H/t GWPF]

<http://notrickszone.com/2012/07/04/scientists-say-a-grand-episode-in-solar-activity-started-in-2008-but-no-support-for-a-grand-maunder-type-minimum/>

#### *Climategate Continued*

#### **Boulton’s Nature Editorial**

By Steve McIntyre, Climate Audit, Jun 28, 2012

<http://climateaudit.org/2012/06/28/boultons-nature-editorial/>

#### **Lonnie and Ellen, A Serial Non-Archiving Couple**

By Steve McIntyre, Climate Audit, Jul 1, 2012 [H/t Gordon Fulks]

<http://climateaudit.org/2012/07/01/lonnie-and-ellen-serial-non-archivers/#comment-341083>

#### **Sunday Reflection: The collusion of the climate crowd**

By Christopher Horner, Washington Examiner, Jul 7, 2012

<http://washingtonexaminer.com/sunday-reflection-the-collusion-of-the-climate-crowd/article/2501500>

[SEPP Comment: Freedom of information for the select few.]

#### *Challenging the Orthodoxy*

#### **Nobel prize winner — Ivar Giaever — “climate change is pseudoscience”**

By Jo Nova, Her Blog, Jul 6, 2012

<http://joannenova.com.au/2012/07/nobel-prize-winner-ivar-giaever-climate-change-is-pseudoscience/#more-22556>

[SEPP Comment: See video at the link immediately below.]

#### **The Strange Case of Global Warming (Video)**

By Ivar Giaever, 62<sup>nd</sup> Meeting of Nobel Laureates, The Lindau Mediatheque, 2012 [H/t Climate Depot]

<http://www.mediatheque.lindau-nobel.org/#/Video?id=1410>

## **Fallacies in Climate Models**

NZ Climate Truth Newsletter NO 296

By Vincent Gray, Climate Sceptics Party, Jul 2, 2012

<http://theclimatescepticsparty.blogspot.com.au/2012/07/fallacies-in-climate-models.html>

## **New paper finds clouds act as a negative feedback and cause significant cooling**

By Staff Writer, Hockey Schtick, Jul 5, 2012 [H/t GWPF]

<http://hockeyschtick.blogspot.co.uk/2012/07/new-paper-finds-clouds-act-as-negative.html>

## ***Defending the Orthodoxy***

### **NOAA's Pacific Marine Environment Laboratory Carbon Program goes overboard on ocean acidification – leaves uncorrected error**

By Anthony Watts, WUWT, Jun 30, 2012

<http://wattsupwiththat.com/2012/06/30/noaas-pacific-marine-environment-laboratory-carbon-program-goes-overboard-on-ocean-acidification/>

[SEPP Comment: This is not surprising. In November 2010, Richard Feely gave misleading, alarmist testimony to a committee of Congress.]

## **The EPA wins, for science's sake**

Editorial, Washington Post, Jul 4, 2012 [H/t David Manuta]

[http://www.washingtonpost.com/opinions/the-epa-wins-for-sciences-sake/2012/07/04/gJQANbN6NW\\_story.html](http://www.washingtonpost.com/opinions/the-epa-wins-for-sciences-sake/2012/07/04/gJQANbN6NW_story.html)

[SEPP Comment: The court decision was based not on science, but on what the EPA claimed is science.]

## ***Questioning the Orthodoxy***

### **Liberal Doses Of Dirty Air And Water Politics: Polluting The Energy Issue**

By Larry Bell, Forbes, Jul 3, 2012

<http://www.forbes.com/sites/larrybell/2012/07/03/liberal-doses-of-dirty-air-and-water-politics-polluting-the-energy-issue/>

## **The EU has opted to do nothing and die**

The real drama of the latest EU summit was not what happened, but what didn't happen

By Christopher Booker, Telegraph, UK, Jun 30, 2012

<http://www.telegraph.co.uk/comment/9366090/The-EU-has-opted-to-do-nothing-and-die.html>

OK, we got 2012 wrong – but trust our forecast for 2100

What is timely to recall, however, is the admission made to MPs in March 2010 by Professor Julia Slingo, the Met Office's chief scientist, that the “numerical models” used by the Met Office to make its short-term weather forecasts are exactly the same as those “we use for our climate prediction work”.

## **Global Warm-Mongers Again Ignore Contrary Evidence**

Editorial, IBD, Jul 5, 2012

<http://news.investors.com/article/617206/201207051838/global-warming-advocates-ignore-contrary-evidence-and8212-again.htm?>

## ***Questioning European Green***

### **World Saddled by Europe**

By Donn Dears, Power For USA, July 6, 2012

<http://dddusmma.wordpress.com/2012/07/06/world-saddled-by-europe/>

[SEPP Comment: Europe is leading the way to a dismal world.]

## **Optimising the energy supply**

By Martin Livermore, Scientific Alliance, Jul 5, 2012

<http://www.scientific-alliance.org/scientific-alliance-newsletter/optimising-energy-supply>

[SEPP Comment: Governments establishing irrational policies to reduce carbon dioxide emissions.]

### **Germans Cough Up for Solar Subsidies**

By Alexander Neubacher and Catalina Schröder, Spiegel Online, Jul 4, 2012 [H/t GWPF]

<http://www.spiegel.de/international/germany/german-solar-subsidies-to-remain-high-with-consumers-paying-the-price-a-842595.html>

Solar subsidies cost German consumers billions of dollars a year and are widely regarded as inefficient. Even environmentalists are concerned that Berlin's focus on solar comes at the detriment of other renewables. But the solar industry has a powerful lobby, and politicians have proven powerless to resist.

### **Green and pleasant land**

By Martin Livermore, Scientific Alliance, Jun 29, 2012]

<http://www.scientific-alliance.org/scientific-alliance-newsletter/green-and-pleasant-land>

[SEPP Comment: Overpopulation is a matter of perception.]

### **Expanding the Orthodoxy**

#### **Dr Rajendra Pachauri: Time to forget governments and use people power to fight climate change**

By Ed King, RTCC, Jul 2, 2012 [video included]

<http://www.rtcc.org/policy/dr-rajendra-pachauri-time-to-forget-governments-and-use-people-power-to-fight-climate-change/>

#### **IPCC Turns Political Activist: Pachauri Calls On Green Campaigners**

From Responding to Climate Change, GWPF, Jul 3, 2012

<http://thegwgf.org/the-climate-record/6093-ipcc-turns-political-activist-time-to-forget-governments-and-use-activists-to-fight-climate-change.html>

### **Bottoms up**

By Andrew Montford, Bishop Hill, Jul 3, 2012

<http://bishophill.squarespace.com/blog/2012/7/3/bottoms-up.html>

[SEPP Comment: Montford's view on the IPCC publicly announcing it is going political.]

### **UNESCO, butt out!**

By Walter Starck, Quadrant, Jun 22, 2012

<http://www.quadrant.org.au/blogs/doomed-planet/2012/06/unesco-butt-out>

[SEPP Comment: A rather adamant essay opposing a possible UN declaration that the Great Barrier is a World Heritage Site and the supposed environmental concerns.]

### **Rio + 20 – World Control?**

#### **Rio: not plus or minus, just 20**

By Sunita Narain, Down to Earth, Jul 15, 2012

<http://www.downtoearth.org.in/content/rio-not-plus-or-minus-just-20>

[SEPP Comment: Comments on the Rio conference from an environmental group in India.]

### **Seeking a Common Ground**

#### **False Positives,**

By Steve McIntyre, Climate Audit, Jun 28, 2012

<http://climateaudit.org/2012/06/28/false-positives/>

[SEPP Comment: Setting out practical guidelines for scientific studies that rely heavily on statistics.]

### **Epidemic of false claims**

By Judith Curry, Climate Etc, Jul 1, 2012

<http://judithcurry.com/2012/07/01/epidemic-of-false-claims/#more-3437>

[SEPP Comment: Illustrating again the reproducibility is critical in science.]

### ***Communicating Better to the Public – Exaggerate, or be Vague?***

#### **University of Nebraska claims record drought in the USA? Not so fast...**

By Anthony Watts, WUWT, Jul 5, 2012

<http://wattsupwiththat.com/2012/07/05/uuniversity-of-nebraska-claims-record-drought-in-the-usa-not-so-fast/>

[SEPP Comment: The press releases from the National Drought Mitigation Center need adult supervision.]

### **Colorado's table was set for monster fire**

By Darryl Fears, Washington Post, Jul 1, 2012

[http://www.washingtonpost.com/national/health-science/colorados-table-was-set-for-monster-fire/2012/07/01/gJQAVa6cGW\\_story.html](http://www.washingtonpost.com/national/health-science/colorados-table-was-set-for-monster-fire/2012/07/01/gJQAVa6cGW_story.html)

### **In Colorado wildfires, 'worst in state history', why won't the Forest Service use the biggest firefighting tool available?**

By Anthony Watts, WUWT, Jun 30, 2012

<http://wattsupwiththat.com/2012/06/30/in-colorado-wildfires-worst-in-state-history-why-wont-the-forest-service-use-the-biggest-firefighting-tool-available/>

### ***Communicating Better to the Public – Make things up.***

#### **Comment On Seth Borenstein AP News Article "This US Summer Is 'What Global Warming Looks Like'"**

By Roger Pielke Sr, Climate Science, Jul 3, 2012

<http://pielkeclimatesci.wordpress.com/2012/07/03/comment-on-seth-borenstein-ap-news-article-this-us-summer-is-what-global-warming-looks-like/>

[SEPP Comment: The AP reporter did not report on those who did not view this past June as unprecedented and global.]

### **To Explain Temperatures/Storms, Borenstein And Scientists Apply A Totally Different, Absurd Science Just 2 Years Later**

By P Gosselin, No Tricks Zone, Jul 3, 2012 [H/t ICECAP]

<http://notrickszone.com/2012/07/03/to-explain-temperaturesstorms-borenstein-and-scientists-apply-a-totally-different-absurd-science-just-2-years-later/>

[SEPP Comment: When it is cold, the cause is natural variability. When it is hot, the cause is global warming / climate change.]

### **Polar Bear Scare: A Letter To The Economist**

By Matt Ridley, Andrew Montford, Benny Peiser, GWPF, Jul 6, 2012

<http://thegwpf.org/science-news/6116-polar-bear-scare-a-letter-to-the-economist.html>

[SEPP Comment: The editors of any magazine proclaiming it to be The Economist should know better.]

### **How would you lead us out of the climate predicament?**

Our only option is to lead from below. What would you do to achieve the fastest, greatest progress in the fight against climate change?

By Andrew Simms, Guardian, UK, Jul 3, 2012

<http://www.guardian.co.uk/environment/blog/2012/jul/02/lead-climate-predicament?intcmp=122>

[SEPP Comment: Logical fallacy of false dilemma. The question assumes that humans can control climate change.]

### ***Models v. Observations***

#### **Latest Global Temps**

By Roy Spencer, His Blog, Jul 6, 2012

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

[SEPP Comment: Above the mean for June in the 34 year old record, but Nature continues to flaunt the models.]

#### **June 2012 U.S. Temperatures: Not That Remarkable**

By Roy Spencer, His Blog, Jul 6, 2012

<http://www.drroyspencer.com/2012/07/june-2012-u-s-temperatures-not-that-remarkable/>

### ***Measurement Issues***

#### **The Contrast Between The NOAA NCDC and NASA NEO Images Of Land Surface Temperature Anomalies – Further Evidence Of The NOAA Warm Bias**

By Roger Pielke, Sr, Climate Science, Jun 28, 2012

<http://pielkeclimatesci.wordpress.com/2012/06/28/the-contrast-between-the-noaa-ncdc-and-nasa-eos-images-of-land-surface-temperature-anomalies-further-evidence-of-the-noaa-warm-bias/>

[SEPP Comment: More inconsistencies at NOAA's National Climatic Data Center.]

### ***Changing Weather***

#### **35 Years Ago Today: Global Cooling Caused Severe Wind Damage**

By Roy Spencer, His Blog, Jul 4, 2012

<http://www.drroyspencer.com/2012/07/35-years-ago-today-global-cooling-caused-severe-wind-damage/>

#### **Is there a derecho in here?**

By Joe D'Aleo, ICECAP, Jul 1, 2012

[http://icecap.us/index.php/go/political-climate/is\\_there\\_a\\_derecho\\_in\\_here1/](http://icecap.us/index.php/go/political-climate/is_there_a_derecho_in_here1/)

#### **Weather from before coal fired power stations — shock — not perfect?**

By Jo Nova, Her Blog, Jul 4, 2012

<http://joannenova.com.au/2012/07/weather-from-before-coal-fired-power-stations-shock-not-perfect/#more-22539>

[SEPP Comment: Thoughts on Australian climate (weather) change 150 years ago.]

#### **Predicting hot days in Europe**

By Staff Writers, Cordis News, Jun 28, 2012

[http://cordis.europa.eu/fetch?CALLER=EN\\_NEWS&ACTION=D&SESSION=&RCN=34776](http://cordis.europa.eu/fetch?CALLER=EN_NEWS&ACTION=D&SESSION=&RCN=34776)

#### **Cold Comfort**

By Alan Caruba, Warning Signs, July , 2012

<http://factsnotfantasy.blogspot.com/2012/07/cold-comfort.html>

### ***Changing Climate***

#### **Researchers able to better pinpoint history of droughts through exploration of tree rings**

By Staff Writers. Pittsburgh PA, (SPX) Jul 05, 2012

[http://www.terraviva.com/reports/Researchers\\_able\\_to\\_better\\_pinpoint\\_history\\_of\\_droughts\\_through\\_exploration\\_of\\_tree\\_rings\\_999.html](http://www.terraviva.com/reports/Researchers_able_to_better_pinpoint_history_of_droughts_through_exploration_of_tree_rings_999.html)

*[SEPP Comment: Such research questions the use of tree rings only to determine temperature. Mr. Mann anyone? Some proofreading needed. Castor Lake is on a plateau, and the water inflow comes only from precipitation and groundwater. Therefore, no water is lost through evaporation (outflow?)]*

### ***Changing Seas***

#### **NRC Sea Level Rise Scare: Losing Sight of the Science**

By Patrick Michaels, World Climate Report, Jun 29, 2012

<http://www.worldclimatereport.com/index.php/2012/06/29/nrc-sea-level-rise-scare-losing-sight-of-the-science/#more-545>

#### **Part 2 of “On Sallenger et al (2012) – Hotspot of Accelerated Sea Level Rise on the Atlantic Coast of North America”**

By Bob Tisdale, WUWT, Jul 1, 2012

<http://wattsupwiththat.com/2012/07/01/part-2-of-on-sallenger-et-al-2012-hotspot-of-accelerated-sea-level-rise-on-the-atlantic-coast-of-north-america/>

*[SEPP Comment: Local sea level change can come from a variety of reasons. Projecting these changes into the future, without careful examination, is speculation, not science. See link immediately above.]*

#### **The NAO seafood oscillation**

By Bob Tisdale, WUWT, Jul 6, 2012

<http://wattsupwiththat.com/2012/07/06/the-nao-seafood-oscillation/#more-66908>

*[SEPP Comment: Linking temperature change in the North Sea to the North Atlantic Oscillation.]*

### ***Changing Humanity***

#### **2012 IGBP Article “Cities Expand By Area Equal To France, Germany And Spain Combined In Less Than 20 years”**

By Roger Pielke, Sr, Climate Science, Jul 2, 2012

<http://pielkeclimatesci.wordpress.com/2012/07/02/2012-igbp-article-cities-expand-by-area-equal-to-france-germany-and-spain-combined-in-less-than-20-years/>

*[SEPP Comment: Increased world-wide urbanization influences local and regional climate and reported surface temperatures.]*

### ***Agriculture Issues & Fear of Famine***

#### **Blaming villagers for global warming**

By Fay Walker, Coral Keegan, Abigail Friedman, Morgan Washburn, Ellery Graves, Guest Contributors, New Mandala, Jun 21, 2012 [H/t WUWT]

<http://asiapacific.anu.edu.au/newmandala/2012/06/21/blaming-villagers-for-global-warming/>

*[SEPP Comment: The sheer madness of the global warming mania.]*

### ***Litigation Issues***

#### **Court decrees global warming**

Judge stipulates what science has failed to prove

Editorial, Washington Times, Jul 5, 2012

<http://www.washingtontimes.com/news/2012/jul/5/court-decrees-global-warming/>

#### **NEWS: New legal approach — consumer protection laws may protect citizens against misleading BOM statements**

By Anthony Cox, Jo Nova, Jul 6, 2012

<http://joannenova.com.au/2012/07/news-legal-action-against-agw/#more-22568>

*[SEPP Comment: A creative approach to bring a lawsuit against those government agencies that manipulate temperature data.]*

## ***Cap-and-Trade and Carbon Taxes***

### **The-Tax-Whose-Name-Shall-Not-Be-Spoken Begins**

By Jo Nova, Her Blog, July 2, 2012

<http://joannenova.com.au/2012/07/the-tax-whose-name-shall-not-be-spoken-begins/>

*[SEPP Comment: In Australia it is illegal for business to declare they are raising prices due to government imposed carbon taxes. When it comes to environmentalism, freedom of speech is secondary.]*

### **Carbon Tax: PM says change is never easy but benefits will flow**

By Julia Gillard, Herald Sun, AU, Jul 5, 2012 [H/t Des Moore]

<http://www.heraldsun.com.au/opinion/carbon-tax-pm-says-change-is-never-easy-but-benefits-will-flow/story-e6frfhqf-1226417305683>

### **Carbon price floor at risk of being scrapped**

By Gregg Borschmann, ABC News, AU, Jul 4 2012 [H/t GWPF]

<http://www.abc.net.au/environment/articles/2012/07/04/3538788.htm>

*[SEPP Comment: Great propaganda photo of chimneys emitting steam at sunset.]*

## ***Subsidies and Mandates Forever***

### **German solar bubble? Look again!**

By Craig Morris, European Energy Review, Jul 5, 2012

[http://www.europeanenergyreview.eu/site/pagina.php?id\\_mailing=292&toegang=1700002963a49da13542e0726b7bb758&id=3791](http://www.europeanenergyreview.eu/site/pagina.php?id_mailing=292&toegang=1700002963a49da13542e0726b7bb758&id=3791)

*[SEPP Comment: The world-wide production capacity of PV panels is twice the 2011 actual consumption. The companies producing PV panels in Germany are going bankrupt. This is a sign of success of a program that is massively increasing electricity prices to consumers?]*

### **The Ruinous Privileges of Renewable Energy**

Ray Evans & Tom Quirk, Quadrant, Jul, 2012

<http://www.quadrant.org.au/magazine/issue/2012/7-8/the-ruinous-privileges-of-renewable-energy/page:printable>

*[SEPP Comment: This study of government backed wind power includes graphs based on performance which clearly show why wind power mandates are ruinous to electricity customers in South Australia, including households.]*

## ***EPA and other Regulators on the March***

### **Why EPA Prevails**

By Donn Dears, Power for USA, Jul 3, 2012

<http://dddusmma.wordpress.com/2012/07/03/why-epa-prevails/>

*[SEPP Comment: A short outline of the dreary, but necessary, fight to overcome EPA efforts to control the US economy.]*

## ***Energy Issues – General***

### **OPEC's gift to oil sands producers: high oil prices**

By Yadullah Hussain, Financial Post, Jul 6, 2012

[http://business.financialpost.com/2012/07/06/opecs-gift-high-oil-prices-2/?\\_lsa=44b54869](http://business.financialpost.com/2012/07/06/opecs-gift-high-oil-prices-2/?_lsa=44b54869)

### **Europe Burns Coal Fastest Since 2006 in Boost for U.S.**

By Rakteem Katakey, Rajesh Kumar Singh and Rachel Morison, Bloomberg, Jul 3, 2012

<http://www.businessweek.com/news/2012-07-02/europe-burns-coal-fastest-since-2006-in-boost-for-u-dot-s-dot-energy>

### ***Oil and Natural Gas – the Future or the Past?***

#### **Three New Facts Prove That Banning Fracking Boosts Carbon Pollution & Challenge Environmentalists To Rethink Shale Gas**

By John Hanger, His Blog, Jul 3, 2012

<http://johnhanger.blogspot.co.uk/2012/07/three-new-facts-prove-that-banning.html>

#### **Shale Gas Causes First Quarter 2012 US Carbon Emissions To Plummet Again**

By John Hanger, His Blog, Jul 2, 2012 [H/t Carpe Diem]

<http://johnhanger.blogspot.com/2012/07/shale-gas-causes-first-quarter-2012-us.html>

*[SEPP Comment: If the trend continues, US CO2 emissions may fall to 1990 levels. Of course, the recession helps. No wonder many in Washington are demanding the Federal Government to slap severe controls on hydraulic fracturing and the gas and oil it produces.]*

#### **Monthly coal- and natural gas-fired generation equal for first time in April 2012**

By Staff Writers, EIA, Jul 6, 2012 [H/t Carpe Diem]

<http://www.eia.gov/todayinenergy/detail.cfm?id=6990>

### ***Nuclear Energy and Fears***

#### **Japan Panel Blames Disaster on Negligence**

By Mitsuru Obe and Phred Dvorak, WSJ, Jul 5, 2012

[http://online.wsj.com/article/SB10001424052702304141204577508054139099724.html?mod=WSJ\\_Energy\\_leftHeadlines](http://online.wsj.com/article/SB10001424052702304141204577508054139099724.html?mod=WSJ_Energy_leftHeadlines)

#### **Some Facts About Radiation**

By Ted Rockwell, Learning about Energy, Jul 2012

<http://www.learningaboutenergy.com/2012/07/some-facts-about-radiation.html>

*[SEPP Comment: Rockwell is a pioneer and technical expert on the nuclear Navy. SEPP has not asked him what he thinks of the bio-fuel navy.]*

#### **Forbidden Science: Low Level Radiation and Cancer**

By Norman Rogers, American Thinker, Jul 6, 2012

[http://www.americanthinker.com/2012/07/forbidden\\_science\\_low\\_level\\_radiation\\_and\\_cancer.html](http://www.americanthinker.com/2012/07/forbidden_science_low_level_radiation_and_cancer.html)

### ***Alternative, Green (“Clean”) Solar and Wind***

#### **A Skeptic Looks at Alternative Energy**

It takes several lifetimes to put a new energy system into place, and wishful thinking can't speed things along

By Vaclav Smil, IEEE Spectrum, July 2012 [H/t WUWT]

<http://spectrum.ieee.org/energy/renewables/a-skeptic-looks-at-alternative-energy/0>

*[SEPP Comment: A brief look at what is required to convert from traditional sources. Too much of the promise of solar and wind is as solid as campaign promises by politicians.]*

#### **How solar subsidies can distort the power market: the case of Italy**

By Carlo Stagnaro, European Energy Review, Jul 5, 2012

[http://www.europeanenergyreview.eu/site/pagina.php?id\\_mailing=292&toegang=1700002963a49da13542e0726b7bb758&id=3792](http://www.europeanenergyreview.eu/site/pagina.php?id_mailing=292&toegang=1700002963a49da13542e0726b7bb758&id=3792)

*[SEPP Comment: Four major problems for electricity from PV in Italy. It is a great success except for its high cost. World-wide the greatest capacity is in Germany, then Italy, then Spain. Italy has more solar capacity than the US, China, and Japan combined.]*

### **Japanese Energy Supply Gets FiT With Solar Bonds**

By Staff Writers, Tokyo, Japan (SPX), Jul 05, 2012

[http://www.solardaily.com/reports/Japanese\\_Energy\\_Supply\\_Gets\\_FiT\\_With\\_Solar\\_Bonds\\_999.html](http://www.solardaily.com/reports/Japanese_Energy_Supply_Gets_FiT_With_Solar_Bonds_999.html)

[SEPP Comment: Without mandatory purchase requirement, this will result in another bubble.]

### **Japan eyes clean energy revolution after Fukushima**

By Staff Writers, Tokyo (AFP), July 4, 2012

[http://www.solardaily.com/reports/Japan\\_eyes\\_clean\\_energy\\_revolution\\_after\\_Fukushima\\_999.html](http://www.solardaily.com/reports/Japan_eyes_clean_energy_revolution_after_Fukushima_999.html)

[SEPP Comment: One more nation making a massive, very expensive, green energy "investment", or a black hole for the customers? This article continues the failure to recognize the difference between name plate capacity and effective capacity as well as failing to recognize the need for back-up.]

### **An unholy gale brewing up in Devon**

When villagers discovered their clergy's turbine plans, shepherd-flock relations turned nasty

By Christopher Middleton, Telegraph, UK, Jul 2, 2012 [H/t Malcolm Ross]

<http://www.telegraph.co.uk/earth/energy/windpower/9368852/An-unholy-gale-brewing-up-in-Devon.html>

### **Alternative, Green ("Clean") Energy -- Other**

#### **U.S. Navy Sails the Ocean Green**

By Lloyd Billingsley, Front Page, Jul 6, 2012

[http://frontpagemag.com/2012/lloyd-billingsley/u-s-navy-sails-the-ocean-green/?utm\\_source=FrontPage+Magazine&utm\\_medium=email&utm\\_campaign=915ae7d78f-Mailchimp\\_FrontPageMag](http://frontpagemag.com/2012/lloyd-billingsley/u-s-navy-sails-the-ocean-green/?utm_source=FrontPage+Magazine&utm_medium=email&utm_campaign=915ae7d78f-Mailchimp_FrontPageMag)

[SEPP Comment: Forget the blue navy, the current fad is a green navy.]

#### **California Dreaming**

#### **New Study on CA Global Warming Law Indicates Higher Costs**

By Lucy Ma, IVN, Jul 4, 2012 [H/t GWPF]

<http://ivn.us/2012/07/04/new-study-on-ca-global-warming-law-indicates-higher-costs/>

[SEPP Comment: The California Air Resources Board (CARB) underestimated the costs of regulations it imposed? But many in CARB learned their techniques in the EPA.]

### **Review of Recent Scientific Articles by NIPCC**

For a full list of articles see [www.NIPCCreport.org](http://www.NIPCCreport.org)

#### **Climate Change and Armed Civil Conflict**

Reference: Bergholt, D. and Lujala, P. 2012. Climate-related natural disasters, economic growth, and armed civil conflict. *Journal of Peace Research* 49: 147-162.

<http://www.nipccreport.org/articles/2012/jul/3jul2012a2.html>

#### **Climate Variability and Civil Strife**

Reference: Koubi, V., Bernauer, T., Kalbhenn, A. and Spilker, G. 2012. Climate variability, economic growth, and civil conflict. *Journal of Peace Research* 49: 113-127.

<http://www.nipccreport.org/articles/2012/jul/4jul2012a2.html>

#### **Effects of Elevated CO2 on the Growth of Marine Algae**

Reference: Moazami-Goudarzi, M. and Colman, B. 2012. Changes in carbon uptake mechanisms in two green marine algae by reduced seawater pH. *Journal of Experimental Marine Biology and Ecology* 413: 94-99.

<http://www.nipccreport.org/articles/2012/jul/4jul2012a1.html>

With Moazami-Goudarzi and Colman determining that *S. minor* and *S. cylindricus* "were able to tolerate a broad range of pH from pH 5.0 to 9.5," as well as the broad range of salinities they investigated, it would appear that even the *worst nightmare* of the world's climate alarmists would not be a great impediment to

the continued wellbeing of these two green marine algae, even without the positive influence of evolutionary forces that would likely come into play over the timespan involved in the seawater transformations envisioned by Caldeira and Wickett.

**Effects of Ocean Acidification on Motility and Swimming Speed of Sea Urchin Sperm**

Reference:Caldwell, G.S., Fitzer, S., Gillespie, C.S., Pickavance, G., Turnbull, E. and Bentley, M.G. 2011. Ocean acidification takes sperm back in time. *Invertebrate Reproduction and Development* 55: 217-221.

<http://www.nipccreport.org/articles/2012/jul/3jul2012a4.html>

[SEPP Comment: Apparently you cannot keep these little critters back.]

***Environmental Industry***

**The Population Control Holocaust**

By Robert Zubrin, The New Atlantis, Spring 2012 [H/t SPPI]

<http://www.thenewatlantis.com/publications/the-population-control-holocaust>

[SEPP Comment: A recommended essay on anti human ideology consuming those who wish to save the world.]

**EPA's Regional Administrators Love Activism, Litigation**

By Paul Chesser, NLPC, Jul 3, 2012

<http://nlpc.org/stories/2012/07/03/litigious-activist-backgrounds-epas-regional-administrators>

[SEPP Comment: A revolving door between Big Green and Government – say it is not so?]

**Greenpeace slams 'illegal' Indonesia coal plant**

By Staff Writers, Jakarta (AFP), July 4, 2012

[http://www.energy-daily.com/reports/Greenpeace\\_slams\\_illegal\\_Indonesia\\_coal\\_plant\\_999.html](http://www.energy-daily.com/reports/Greenpeace_slams_illegal_Indonesia_coal_plant_999.html)

[SEPP Comment: Keeping the natives at a subsistence level.]

***Other Scientific News***

**CERN experiments observe particle consistent with long-sought Higgs boson**

By Staff Writers, Geneva, Switzerland (SPX), Jul 05, 2012

[http://www.spacedaily.com/reports/CERN\\_experiments\\_observe\\_particle\\_consistent\\_with\\_long\\_sought\\_Higgs\\_boson\\_999.html](http://www.spacedaily.com/reports/CERN_experiments_observe_particle_consistent_with_long_sought_Higgs_boson_999.html)

**Deep-sea rare earths found in Japan**

By Staff Writers, Tokyo (UPI), Jul 3, 2012

[http://www.spacemart.com/reports/Deep-sea\\_rare\\_earths\\_found\\_in\\_Japan\\_999.html](http://www.spacemart.com/reports/Deep-sea_rare_earths_found_in_Japan_999.html)

[SEPP Comment: Costs of extraction will be an issue.]

***Other News that May Be of Interest***

**Parkinson's Researcher Fabricated Data**

Neuroscientist Mona Thiruchelvam agrees to retract two studies linking neurodegeneration to pesticides.

By Hayley Dunning, The Scientist, Jun 29, 2012 [H/t Catherine French]

<http://the-scientist.com/2012/06/29/parkinsons-researcher-fabricated-data/>

**China's Three Gorges Dam at full capacity: Xinhua**

By Staff Writers, Beijing (AFP), July 4, 2012

[http://www.terradaily.com/reports/Chinas\\_Three\\_Gorges\\_Dam\\_at\\_full\\_capacity\\_Xinhua\\_999.html](http://www.terradaily.com/reports/Chinas_Three_Gorges_Dam_at_full_capacity_Xinhua_999.html)

#####

**BELOW THE BOTTOM LINE:**

**Shrinking leaves point to climate change**

By Staff Writers, Adelaide, Australia (SPX), Jul 05, 2012

[http://www.terradaily.com/reports/Shrinking\\_leaves\\_point\\_to\\_climate\\_change\\_999.html](http://www.terradaily.com/reports/Shrinking_leaves_point_to_climate_change_999.html)

[SEPP Comment: *Hasty conclusion, it may be due to enhanced atmospheric carbon dioxide.*]

#####

## **ARTICLES:**

### **1. Pine Beetles, Fire, and Global Warming**

By Mike Dubrasich, Western Institute for Study of the Environment, July 8, 2012 [H/t Gordon Fulks]

[http://www.sepp.org/key\\_issues/Pine-Beetles.pdf](http://www.sepp.org/key_issues/Pine-Beetles.pdf)

The 2012 fire season in Colorado has been particularly severe. The Waldo Canyon Fire proximate to Colorado Springs is the most destructive in state history, with 18,247 acres burned, 346 homes lost, and two deaths. The High Park Fire near Fort Collins is the second largest in state history, burning 87,284 acres and 259 homes. The Little Sand Fire northwest of Pagosa Springs has burned 24,900 acres in the San Juan National Forest. The Pine Ridge Fire east of Grand Junction burned 13,920 acres. In total 350 fires have burned this year in Colorado; many are as yet uncontained.

Questions arise as to causes. Some have speculated that global warming is a factor. Others point out the pine beetle infestation that has reportedly killed half the state's lodgepole pines across 1.5 million acres, and blame Colorado's fires on that.

But do those speculations have merit? Some facts are in order.

Pine beetle outbreaks have many causes, but warm winter temperatures are not to blame, despite frequent media claims.

Average winter temperatures in Colorado have been below freezing in every year on record since record keeping began in 1895. From 1992-2011 winter temperatures declined -0.78 deg F per decade. In January 2011 the average temperature was 23.4 deg F, one-tenth of a degree below the 1901-2011 January average and 2 deg F below the 1901-2011 winter average.

In fact, winter temperatures in Colorado have not changed significantly over the last 115 years, and they have fallen slightly over the last 20 years, the very period of beetle infestations.

Pine beetles (*Dendroctonus* spp.) occur wherever pine trees occur, in North America from 66° N in Canada to 12° N in Nicaragua. They are capable of surviving and thriving at a wide range of temperatures, as is evident from their wide latitudinal range. In southerly regions winter temperatures are never very cold, and in northerly regions cold winter temperatures are the rule.

The principal causes of bark beetle outbreaks are:

\* Natural population cycles. Insect populations follow regular cycles. Why this happens is not fully understood, but rise and fall over decadal periods has been noted in numerous insect populations. (Some investigators have noted correlations with sunspot cycles, but correlation is not causation etc.)

\* Food availability. Widely spaced, healthy, well-watered pine trees are resistant to bark beetle attack and subsequent fungal infection. There are anti-fungal terpenes and other compounds in pine sap, and abundant sap can coat and smother boring beetles. Conversely, when pines are closely spaced they compete for soil moisture. Individual trees in pine thickets are moisture stressed and cannot defend themselves. Pine thickets are thus ready food sources for bark beetles.

The standard silvicultural remedy for pine beetles is thinning. Widely spaced trees with full crowns are the goal. Depending on initial conditions (stem density and age of the trees) it may take a decade or more for trees to respond to thinning and develop resistance. There are numerous examples of thinned pine stands exhibiting resistance--the practice can and has been successful.

\* Fire. Pine beetles invade burned stands within days after the fire. I have heard the faint chirping (stridulation) of pine beetles in burned stands; it is quite eerie. Burned trees are often singed of needles but still alive. Beetles invade and mortality ensues, as much from fungus as from the fire. Unburned trees adjacent and within the burn zone are also invaded and infected.

Burned pine forests thus become beetle infestation centers. The beetles lay eggs and invade adjacent stands the following year, often in massive outbreaks--even healthy trees can succumb if the outbreak is sufficiently ample.

Pine beetles do kill pine trees. The beetles carry fungi in special anatomical sacs. When they bore under the bark and into the cambium layer of trees, they inoculate the trees and lay eggs. The larvae feed on the fungi (which have the enzymes to digest lignin). The fungi (typically the blue stain fungus, *Grosmannia clavigera*) are what actually kill the tree. The mycelia plug the water transport vessels in the cambium and the tree dies of drought.

But perhaps counter intuitively, beetle-killed pine trees are not especially fire-prone. Fires are a principal cause of pine beetle outbreaks, but outbreaks are not a principal cause of fires.

The needles of beetle-invaded, fungi-infected trees first turn red and then drop, usually with a year or two at most. The needle drop removes fine fuels from the canopy, leaving only courser fuels, which become courser over time as small and then larger twigs and branches fall.

Fire propagation through forest canopies requires abundant fine fuels (and continuity of those fuels). Without needles aloft, canopy fires do not propagate and fires instead "go to ground". Fires may spread quite readily at ground level where brush and dead needles provide a fine fuel source, but ground fires are typically slower to propagate than canopy fires. Hence beetle-killed forests present somewhat less fire hazard than green forests.

Fuels are biological, however, and biomass growth occurs even after bark beetle outbreaks. Fine fuels continue to grow at ground level as brush or new tree seedlings. The fire hazard returns in as little as 5 years.

The recent fires in Colorado were very aggressive and spread rapidly even though they were not canopy fires. Abundant ground-level fuels, fine and course, and the unbroken continuity of those fuels are the reasons those fires were so difficult to contain and did so much damage.

Much of Colorado's beetle infestation followed the Hayman Fire of 2002. In Central Oregon beetle outbreaks can be directly attributed to individual fires. Ditto in California and British Columbia.

That is one reason (there are many) why the Federal policies of reduced forest management and Let It Burn have been so incredibly destructive. Over the last 20 years more than 100 million acres of our public and private forests have been incinerated, and as a direct result, more millions of acres of unburned forests have been lost to beetles. Federal forests with abundant, unbroken fuel loadings are a preventable disaster realized.

*Mike Dubrasich has been a practicing professional forester in Oregon since 1975. For the last 31 years he has been a private consulting forester specializing in forest biometrics. He is currently the Executive Director of the Western Institute for Study of the Environment, a non-profit educational website teaching environmental stewardship and caring for the land: <http://westinstenv.org>*

\*\*\*\*\*

## **2. A Fracking Rule Reprieve**

Next year comes the federal deluge.

Editorial, WSJ, Jun 29, 2012

[http://online.wsj.com/article/SB10001424052702304870304577490680003198686.html?mod=ITP\\_opinion\\_2](http://online.wsj.com/article/SB10001424052702304870304577490680003198686.html?mod=ITP_opinion_2)

The oil and gas industry is celebrating last week's news that the Interior Department is suspending its proposing rules for hydraulic fracturing on public lands. The better way to view this is as the calm before next year's federal regulatory surge.

Interior Secretary Ken Salazar issued the new draft fracking rules in May, elbowing in on turf long occupied by the 50 states. The regulations, covering everything from disclosure of drilling chemicals to well integrity, are redundant. Drillers on federal lands are already subject to state regulations, and there have been no notable scandals or examples of botched oversight. The Environmental Protection Agency has tried to dig up pollution stories, only to have the evidence turn out to be phony or otherwise explainable.

The Western Energy Alliance industry lobby estimates that the Salazar rules will add at least \$1.2 billion to the cost of new wells in 13 states. These costs will be borne primarily by small businesses and energy-producing Indian tribes, which are furious. In response, Mr. Salazar has agreed to extend the comment period on the rules for 60 days. The Obama Administration says the delay is proof of its reasonableness, a point it is trying to stress in this election season.

Note well, however, that Mr. Salazar isn't offering to kill the rules. Meanwhile, other federal agencies ranging from the EPA to the Occupational Safety and Health Administration are looking for ways to justify imposing their own rules on fracking in the name of water quality, worker safety and more.

As Mr. Salazar put it this week, state oversight "isn't good enough for me." If President Obama is re-elected, a sure bet is a tax increase. The second surest bet is that oil and natural gas fracking will face a deluge of new federal costs and bureaucratic orders

\*\*\*\*\*

## **3. Smashing Success**

The Higgs boson breakthrough marks a beginning, not an end.

Editorial, WSJ, Jul 4, 2012

[http://online.wsj.com/article/SB10001424052702303962304577506741737994650.html?mod=ITP\\_opinion\\_2](http://online.wsj.com/article/SB10001424052702303962304577506741737994650.html?mod=ITP_opinion_2)

The basic hypotheses of particle physics have changed little since Democritus of Abdera proposed, sometime around 400 B.C., that all matter was composed of tiny, jittering units. Aristotle rejected this "atomist" theory, and for centuries his assumption—that all substances were compounds of fire, earth, water and air—was the prevailing one.

The Roman poet Lucretius had similar inspirations, and his work suffered a similar fate. "On the Nature of Things," written during the first century B.C., proposes a world of indivisible particles floating randomly through space. But this vision, too, was rebuffed and forgotten until a moldering copy of Lucretius' poem was rediscovered in a German monastery library in 1417.

We have since found some firmer footing. With Wednesday's announcement that the elusive Higgs boson almost certainly exists, the so-called "Standard Model" of particle physics is nearer to validation. But it's worth recalling that even the more recent road traveled in this field wasn't without stops and starts. Nor was its destination always certain.

In 1964, when Peter Higgs first postulated the existence of an invisible field that imbued certain objects in the universe with mass, he had little expectation that such hypotheses could be experimentally validated and thereby made useful in his lifetime. The Standard Model arose during this period as an attempt to knit together various theories of how the universe is held together, though it still is criticized for failing to account for gravity. When technology began to enable experimenters to confirm the various pieces of the puzzle, the Higgs boson earned its notoriety by eluding would-be captors for decades.

Even Wednesday's breakthrough leaves further frontiers to be tested. It could be months before CERN's wizards know whether the new particle they have observed is of the simplest Higgs variety or if it is something more exotic. The Standard Model is already being extended with string theory and—deep breath—the Minimal Supersymmetric Standard Model. Producing dark matter, that strange stuff that is posited to account for much of our universe yet is also absent from the Standard Model, could be the next big task for CERN's Large Hadron Collider.

The seas of modern science, in other words, are stormy and contain many uncharted waters. For now, though, it is enough to marvel again at how far we have sailed.

#####