

The Week That Was: 2020-04-04 (April 4, 2020) **Brought to You by SEPP (www.SEPP.org)** **The Science and Environmental Policy Project**

Quote of the Week: *“If I set forth a concrete proposal in all its particulars, I expose myself to a hundred criticisms on points not essential to the principle of the plan. If I go further in the use of figures for illustration, I am involved more and more in guesswork; and I run the risk of getting the reader bogged in details which may be inaccurate and could certainly be amended without injury to the main fabric.*

“ Yet if I restrict myself to generalities, I don't give the reader enough to bite on; and am in fact shirking the issue, since the size, the order of magnitude, of the factors involved isn't an irrelevant detail.” – John Maynard Keynes [H/t Kenneth Button in WSJ]

Number of the Week: 20% Loss

THIS WEEK:

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

30 Years: March 30 marked the 30th anniversary of the publication of “Precise Monitoring of Global Temperature Trends from Satellites” by Roy Spencer and John Christy in *Science Magazine*. The abstract reads:

*“Passive microwave radiometry from satellites provides more precise atmospheric temperature information than that obtained from the relatively sparse distribution of thermometers over the earth's surface. **Accurate global atmospheric temperature estimates are needed for detection of possible greenhouse warming, evaluation of computer models of climate change, and for understanding important factors in the climate system.** Analysis of the first 10 years (1979 to 1988) of satellite measurements of lower atmospheric temperature changes reveals a monthly precision of 0.01°C, large temperature variability on time scales from weeks to several years, but no obvious trend for the 10-year period. The warmest years, in descending order, were 1987, 1988, 1983, and 1980. The years 1984, 1985, and 1986 were the coolest.”* [Boldface added].

Initially, the satellite data showed a slight cooling trend in the atmosphere. Very slight air drag, even at the altitude of the satellites, changed the orbits of the satellites so that the field of view of the on-board microwave sounding units change, thereby causing the readings to show a cooling trend. When this problem was called to their attention, Spencer and Christy publicly acknowledged these errors and corrected them. The data date back to December 1978. Now we have over 40 years of atmospheric temperature trends which are published monthly. These are independently verified by temperature trends measured by different instruments on weather balloons. These are the finest global temperature trends existing. Nothing else comes close. As a further check on their measurements, there is now a satellite that has jets to assure that the satellite remains in the same orbit. The process is a classic example of using the scientific method to correct errors.

A goal in measurement is to measure as directly and comprehensively as possible. Use of proxies, such as surface-air measurements, is less desirable because other events may interfere with

measurements, such as changes in land use, particularly urbanization. Indeed, accurate atmospheric temperature trends may contain spurious trends due to such things as El Niños (causing warming) and volcanoes (emitting gases and particles that cause cooling. Thus, the trend must be adjusted for these external events unrelated to the human-caused increase in atmospheric carbon dioxide.

Christy and his colleague Richard McNider did so in 1994 and again in 2017 when testing global climate models against observations. Their observations, corrected for ENSO and volcanism, show a warming of about 0.09°C per decade. This is about one-fourth of the warming shown by US models. [They did not adjust for changing solar influence or possible changes in the Pacific Decadal Oscillation.]

The estimates are close to what William van Wijngaarden and his colleagues estimated when using a different approach and different data that doubling the greenhouse gases in troposphere (CO₂, methane, N₂O) and increasing water vapor by about 6% will result in an increase in temperatures about 1 to 1.5 °C. The Christy/McNider analysis does not adjust for the predicted and experimentally observed effect that the influence of each incremental increase of greenhouse gases on temperatures declines dramatically as greenhouse gases in the atmosphere increase.

In his essay, Spencer discusses some of the background and support he and Christy received in developing their analysis using satellite data and assuring proper calibration. Also, he discusses how certain individuals and groups tried to suppress publicizing the findings, such as preventing a visit to the White House during the George H. W. Bush Administration. Spencer writes:

“As the years went by, we would learn that the lack of substantial warming in the satellite data was probably hurting NASA’s selling of ‘Mission to Planet Earth’ to Congress. The bigger the perceived problem, the more money a government agency can extract from Congress to research the problem. At one point a NASA HQ manager would end up yelling at us in frustration for hurting the effort.”

“In 2001, after tiring of being told by NASA management what I could and could not say in congressional testimony, I resigned NASA and continued my NASA projects as a UAH employee in the Earth System Science Center, for which John Christy serves as director (as well as the Alabama State Climatologist).”

It seems that regardless of which political party is in the White House, NASA management wishes to filter information to promote a threat or a crisis in climate for which they need money to understand and solve. Of course, the ultimate “climate crisis” promoter today is the UN Intergovernmental Panel on Climate Change IPCC). See links under Challenging the Orthodoxy and TWTW May 25, 2019 & June 22, 2019.

Testing Models Against Appropriate Solid Evidence: The current health issues presented by COVID-19 illustrate why using appropriate evidence and appropriate models is necessary for effective government policy. There are numerous models for infectious diseases, such as the one used by the Imperial College, discussed in last week’s TWTW. Others include the Murray Model used at the University of Washington’s Institute for Health Metrics and Evaluation.

The results of these models as to the outcomes from infectious diseases can be no better than the data, evidence, fed into them. Until the solid data is obtain on how quickly the disease can spread

and how lethal it is, government policies to address the disease are being established with great uncertainty. For example, the flu of 1918, the so-called Spanish Flu, killed 17 to 50 million people. Many of them were young and healthy. COVID-19 appears to be particularly deadly for the elderly and those with other conditions such as cardiovascular disease, diabetes, hypertension, and other respiratory disease. Thus, models built for the 1918 flu are inappropriate for COVID-19.

Based on data compiled by worldometers, (4/5/20) the deaths per million of population vary widely. For the USA it is 28, for Spain 266, for Italy 263, and France 116. For Sweden, which has taken the “herd immunity” approach with no closure of businesses and social gatherings the reported deaths per million are 40. With great uncertainties, these numbers do not give future trends. For example, Sweden’s policies may change.

The uncertainty of the effects of the disease brings up a dilemma for health care professionals who understand the limits of their science. How much should they say when making comments to the public? This is similar to the dilemma expressed by Keynes in the Quote of the Week.

For many parts of the world, the reporting standards are extremely poor. China, where the disease may have originated, reported 2 deaths per million. Of course, some may blame the leadership of China for misleading the world about the disease. Writing in his blog Manhattan Contrarian, Francis Menton brings up an important point. China is an authoritarian country. Those bearing bad news may be punished.

As described above on atmospheric temperature trends, could it be that those bearing good news of no dangerous global warming are punished and their research ignored? See links under Models v. Observations, Health, Energy, and Climate, Other News that May Be of Interest, Articles # 1 and #2 and <https://www.worldometers.info/coronavirus/#countries>

ENSO: There have been some efforts to claim that the El Niño Southern Oscillation is being changed by increasing carbon dioxide. A reconstruction of Sea Surface Temperatures using corals questions such an assertion. There is nothing new about the current frequency of El Niños. The abstract of a new paper on ENSO by Lawman, et al. reads:

*Climate model simulations of El Niño-Southern Oscillation (ENSO) behavior for the last millennium demonstrate interdecadal to centennial changes in ENSO variability that can arise purely from stochastic processes internal to the climate system. That said, the instrumental record of ENSO does not have the temporal coverage needed to capture the full range of natural ENSO variability observed in long, unforced climate model simulations. **Here we demonstrate a probabilistic framework to quantify changes in ENSO variability via histograms and probability density functions using monthly instrumental and coral-based sea-surface temperature (SST) anomalies from 1900-2005 CE and 1051-1150 CE. We find that reconstructed SST anomalies from modern corals from the southwest Pacific capture changes in ENSO variability that are consistent with instrumental SST data from the central equatorial Pacific. Fossil coral records indicate one hundred years of relatively lower ENSO variability during part of the Medieval Climate Anomaly. Our results demonstrate that periods of reduced ENSO variability can last a century, far longer in duration than modern observations in the instrumental record of ENSO, but consistent with results from unforced climate model simulations.*** [Boldface added.]

There is no logical reason to assume that frequency of El Niños are a new occurrence caused by increasing carbon dioxide. See links under Changing Climate.

Antarctic Forests: Traces of ancient forests have been discovered about 900 km (600 miles) from the South Pole. Of course, much is being made of this, and that atmospheric CO₂ levels were higher during mid-Cretaceous period, 115 to 80 million years ago, and the area was warmer, similar to New Zealand. The researchers used a model to estimate that the temperatures required a CO₂ concentration of 1120 to 1630 parts per million (ppm), compared with today's concentration of about 410 ppm. This is consistent with estimates of CO₂ by others for the same period.

What the researchers failed to check were the geographic changes to West Antarctica, where the research was conducted. According to the web site of the British Geographical Society and the British Antarctic Survey, geologically East and West Antarctica are dramatically different. East Antarctica is an area of continental shield, with some rocks exceeding 3 billion years in age. From the web site:

“East and West Antarctica are quite distinct from each other in terms of their geology. East Antarctica is much larger and is an area of continental shield (or ‘craton’) composed of ancient igneous and metamorphic rocks, some exceeding 3 billion years in age. Overlying the ancient continental shield rock in various places are younger sedimentary rocks (e.g. sandstones, limestones, shales, and coal) which formed at different times under different environmental conditions. For example, coal beds exposed in the Transantarctic Mountains formed through the accumulation of plant matter during the Permian Period (290 to 245 myr ago) when the continent had a warm temperate climate. Over millions of years this organic material was buried; and by compaction under the weight of overlying sediment, it was eventually turned into coal.

“The geology of West Antarctica has much in common with the geology of the Andes. In fact, this side of Antarctica owes its origin to the same mountain building processes that uplifted the western side of South America. During the early Jurassic (around 200 myr ago) oceanic crust began to subduct beneath the Pacific margin of Gondwana. The resulting subduction zone extended along the margin of what is now South America and West Antarctica.”

As usual, those fascinated with their models to find climate change assume the earth is stable. It is not. See links under Changing Climate and Changing Earth.

SEPP'S APRIL FOOLS AWARD THE JACKSON

SEPP is conducting its annual vote for the recipient of the coveted trophy, The Jackson, a lump of coal. Readers are asked to nominate and vote for who they think is most deserving, following these criteria:

- The nominee has advanced, or proposes to advance, significant expansion of governmental power, regulation, or control over the public or significant sections of the general economy.
- The nominee does so by declaring such measures are necessary to protect public health, welfare, or the environment.
- The nominee declares that physical science supports such measures.
- The physical science supporting the measures is flimsy at best, and possibly non-existent.

The eight past recipients, Lisa Jackson, Barrack Obama, John Kerry, Ernest Moniz, John Holdren, Gena McCarthy, Jerry Brown, and Christiana Figueres are not eligible. Generally, the committee that makes the selection prefers a candidate with a national or international presence. The voting will close on June 30. Please send your nominee and a brief reason why the person is qualified for the honor to Ken@SEPP.org. Thank you.

Number of the Week: 20% Loss: As the madness to build wind power increases in many states, there are numerous proposals on how to store electricity when generated in excess in order to have it when needed. The only method successfully tested on a commercial scale is pumped-hydro-storage, which was first used in Switzerland in 1907. According to the EIA:

“Pumped-storage currently accounts for 95% of all utility-scale energy storage in the United States.”

In a 2013 report, based upon reports submitted by utilities the EIA estimated that:

“In 2011, pumped storage plants produced 23 billion kilowatthours (kWh) of gross generation—roughly as much as petroleum-fired generation in that year. Pumped storage plants, however, consumed 29 billion kilowatthours (kWh) of electricity in 2011 to refill their storage reservoirs, resulting in a net generation loss of 6 billion kWh.”

The net generation loss of 6 billion kWh works out to about 20% of the total electricity pumped storage plants use to refill their reservoirs.

Two things are missing in this simple analysis: 1) elevation difference between the reservoir and discharge area (reservoir or open area) and 2) the need for reliable electricity to refill the reservoir. Apparently, the largest facility in the world is in Bath County, Virginia. The two reservoirs have an elevation difference of about 1,260 feet (380 meters) with significant fluctuations during operation.

The key is reliable refill. The Bath County system is refilled by electricity generated by coal and nuclear power. As TWTW has discussed in the past, there are few places in the world with sparsely populated areas where reservoirs large enough can be built to accommodate major utilities using wind power alone. See links under Alternative, Green (“Clean”) Energy – Storage.

NEWS YOU CAN USE:

Challenging the Orthodoxy -- NIPCC

Climate Change Reconsidered II: Physical Science

Idso, Carter, and Singer, Lead Authors/Editors, Nongovernmental International Panel on Climate Change (NIPCC), 2013

<https://www.heartland.org/media-library/pdfs/CCR-II/CCR-II-Full.pdf>

Summary: https://www.heartland.org/_template-assets/documents/CCR/CCR-II/Summary-for-Policymakers.pdf

Climate Change Reconsidered II: Biological Impacts

Idso, Idso, Carter, and Singer, Lead Authors/Editors, Nongovernmental International Panel on Climate Change (NIPCC), 2014

<http://climatechangereconsidered.org/climate-change-reconsidered-ii-biological-impacts/>

Summary: <https://www.heartland.org/media-library/pdfs/CCR-IIb/Summary-for-Policymakers.pdf>

Climate Change Reconsidered II: Fossil Fuels

By Multiple Authors, Bezdek, Idso, Legates, and Singer eds., Nongovernmental International Panel on Climate Change, April 2019

<http://store.heartland.org/shop/ccr-ii-fossil-fuels/>

Download with no charge:

<http://climatechangereconsidered.org/wp-content/uploads/2019/01/Climate-Change-Reconsidered-II-Fossil-Fuels-FULL-Volume-with-covers.pdf>

Why Scientists Disagree About Global Warming

The NIPCC Report on the Scientific Consensus

By Craig D. Idso, Robert M. Carter, and S. Fred Singer, Nongovernmental International Panel on Climate Change (NIPCC), Nov 23, 2015

<http://climatechangereconsidered.org/>

Download with no charge:

<https://www.heartland.org/policy-documents/why-scientists-disagree-about-global-warming>

Nature, Not Human Activity, Rules the Climate

S. Fred Singer, Editor, NIPCC, 2008

http://www.sepp.org/publications/nipcc_final.pdf

Global Sea-Level Rise: An Evaluation of the Data

By Craig D. Idso, David Legates, and S. Fred Singer, Heartland Policy Brief, May 20, 2019

https://www.heartland.org/_template-assets/documents/publications/SeaLevelRiseCCRII.pdf

Challenging the Orthodoxy

The UAH Global Temperature Dataset at 30 Years: A Look Back at the Early Days

By Roy Spencer, His Blog, Mar 30, 2020

<http://www.drroyspencer.com/2020/03/the-uah-global-temperature-dataset-at-30-years-a-look-back-at-the-early-days/>

Link to article: Precise Monitoring of Global Temperature Trends from Satellites

By Roy W. Spencer, John R. Christy, Science, Mar 30, 1990

<https://science.sciencemag.org/content/247/4950/1558>

What Would Happen If 'Fracking' for Oil and Natural Gas Was Banned?

By Roger Bezdek, Real Clear Energy, March 31, 2020

https://www.realclearenergy.org/articles/2020/03/31/what_would_happen_if_fracking_for_oil_and_natural_gas_was_banned_487963.html

Bandwagon Of Doom Washed Away By Tidal Wave Of Data

By Andrew Montford, GWPF, Apr 2, 2020

<https://www.thegwpf.com/bandwagon-of-doom-washed-away-by-tidal-wave-of-data/>

Link to abstract of paper currently under review: Revisiting global hydrological cycle: Is it intensifying?

By Demetris Koutsoyiannis. Hydrology and Earth System Sciences, Discussion started Mar 20, 2020

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2020-120/>

Throwing cold water on hot climate models

By David Wojick, CFACT, Apr 3, 2020

<https://www.cfact.org/2020/04/03/throwing-cold-water-on-hot-climate-models/>

Covid-19 Shows There Won't Be Global Action on Climate Change

By Richard Drake, Climate Scepticism, Mar 27, 2020 [H/t GWPF]

<https://cliscep.com/2020/03/27/covid-19-shows-there-wont-be-global-action-on-climate-change/>

Defending the Orthodoxy

Latest Earth System Models predict more global warming than their predecessors

By Mark Zelinka, , US CLIVAR (Climate Variability and Predictability Program) Mar 25, 2020

<https://usclivar.org/research-highlights/latest-earth-system-models-predict-more-global-warming-their-predecessors>

Insights from Earth system model initial-condition large ensembles and future prospects

By C. Deser, et al., Nature, Climate Change, April 2020 [H/t Judith Curry]

https://www.nature.com/articles/s41558-020-0731-2.epdf?shared_access_token=_ThT0M1iILK_nCG3M4d96tRgN0jAjWel9jnR3ZoTv0NnBpoO0B2TIXC-0PoMuTZLU9os0zosjl9RK_3dqMQAbxcvL4heRNcOyiYMd0p9Hw180TVwDMP6PU58fPRcKCPsqTZqzK_HXurN8KivkTZqGQ%3D%3D

The debate about the debate

By John Robson, Climate Discussion Nexus, Apr 1, 2020

<https://climatediscussionnexus.com/2020/04/01/the-debate-about-the-debate/>

10 ways coronavirus is changing energy and climate change

By Amy Harder, Axios, Mar 23, 3030

<https://www.axios.com/10-coronavirus-changes-energy-climate-1cac55b9-8b33-4f7b-afed-ab91f5c75e65.html>

“Wind and solar companies are warning about stunted supply chains and tax uncertainty due to borders closing around the world and related economic slowdowns.”

Questioning the Orthodoxy

Are lockdowns working?

By Christopher Monckton of Brenchley, WUWT, Apr 4, 2020

<https://wattsupwiththat.com/2020/04/04/are-lockdowns-working/>

Unintended Consequences? Polio and COVID 19

By Jim Steele, Landscapes and Cycles, Accessed Apr 4, 2020

<http://landscapesandcycles.net/unintended-consequences--polio-and-covid-19.html>

You still don't quite get it

By John Robson, Climate Discussion Nexus, Apr 1, 2020

<https://climatediscussionnexus.com/2020/04/01/you-still-dont-quite-get-it/>

After Paris!

UN's Paris Climate Architect Dismisses Coronavirus Deaths and Misery

By James Taylor, Climate Realism, Apr 3, 2020

<http://climaterealism.com/2020/04/uns-paris-climate-architect-dismisses-coronavirus-deaths-and-misery/>

COP26 Delay: Climate Activists Hopeful They'll Have New President in the White House

By Eric Worrall, WUWT, Apr 3, 2020

<https://wattsupwiththat.com/2020/04/03/cop26-delay-climate-activists-hopeful-theyll-have-new-president-in-the-white-house/>

Change in US Administrations

Trump Administration Finalizes New Vehicle Fuel Economy Rule

By Myron Ebell, CEI, Apr 3, 2020

<https://cei.org/blog/trump-administration-finalizes-new-vehicle-fuel-economy-rule>

Trump Administration Suspends Tariffs, but Not Confusion, for Three Months

By Ryan Young, CEI, Mar 30, 2020

<https://cei.org/blog/trump-administration-suspends-tariffs-not-confusion-three-months>

Problems in the Orthodoxy

Russia's New Low Carbon Plan—Increase Emissions by 30%!

By Paul Homewood, Not a Lot of People Know That, Mar 30, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/30/russias-new-low-carbon-plan-increase-emissions-by-30/>

“So the plan is:

- 1) Increase emissions by 30% between now and 2030.
- 2) Reduce emissions by 5% between 2030 and 2050.

“That should save the planet!!

“Russia's emissions of CO₂ are about five times that of the UK's.”

Covid-19 And Climate Change: Asia's Policy Choices In The Age Of 'Crisis'

By Tilak Doshi, Forbes, Apr 2, 2020

<https://www.forbes.com/sites/tilakdoshi/2020/04/02/covid-19-and-climate-change-asias-policy-choices-in-the-age-of-crisis/#2e85f52d5cc0>

“Japan, the world's third largest economy and one of its richest, is the first major signatory of the Paris Agreement to submit updated plans on cutting emissions in preparation for the now-postponed November 2020 Glasgow meeting. It was widely criticised by climate campaigners for failing to intensify emission targets as called for by the ‘spirit’ of the Paris Agreement.”

[SEPP Comment: Nothing satisfies zealots except complete submission to their whims.]

Japan Refuse To Increase Emissions Cuts

By Paul Homewood, Not a Lot of People Know That, Mar 30, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/30/japan-refuse-to-increase-emissions-cuts/>

“Japan's emissions are approximately triple the UK's.”

Cabinet delays climate change plans, corona measures cut air pollution

By Staff, Dutch News.nl, Mar 31, 2020

<https://www.dutchnews.nl/news/2020/03/cabinet-delays-climate-change-plans-corona-measures-cut-air-pollution/>

Seeking a Common Ground

Fauci: 'Millions' of US Coronavirus Cases Likely, '200,000' Deaths

By Staff, AP, Newsmax, Mar 29, 2020

https://www.newsmax.com/headline/fauci-coronavirus-cases-millions/2020/03/29/id/960412/?ns_mail_uid=9af78cd4-7188-4875-ba2c-e930f35496ab&ns_mail_job=DM101226_03292020&s=acs&dkt_nbr=0101021n7ecj

[SEPP Comment: From a scientific point of view, it's encouraging that Dr. Fauci had the good sense to speak with only one-place precision. If he had said a precise number, we would know he was using the output of a questionably tested computer model.]

Fight the Virus with Sunshine

By Jim Steele, WUWT, Apr 2, 2020

<https://wattsupwiththat.com/2020/04/02/fight-the-virus-with-sunshine/>

Review of Recent Scientific Articles by CO2 Science

The Photosynthetic Response of Jicama to Elevated CO2

Ravi, V., Pushpaleela, A., Raju, S., Gangadharan, B. and More, S.J. 2019. Evaluation of photosynthetic efficiency of yam bean (*Pachyrhizus erosus* L.) at saturating photon flux density under elevated carbon dioxide. *Physiology and Molecular Biology of Plants* 26: 189-194. Apr 3, 2020

<http://www.co2science.org/articles/V23/apr/a2.php>

The Interaction of CO2 and Temperature on Yields in a Double Rice Rotation

Wang, B., Li, J., Wan, Y., Cai, W., Guo, C., You, S., Li, R., Qin, X., Gao, Q., Zhou, S., Liu, K., Wilkes, A. and Li, Y. 2019. Variable effects of 2°C air warming on yield formation under elevated [CO2] in a Chinese double cropping system. *Agricultural and Forest Meteorology* 278: 107662. Apr 1, 2020

<http://www.co2science.org/articles/V23/apr/a1.php>

Models v. Observations

Coronavirus Lessons From the Asteroid That Didn't Hit Earth

Scary projections based on faulty data can put policy makers under pressure to adopt draconian measures.

By Benny Peiser and Andrew Montford, Apr 1, 2020

https://www.wsj.com/articles/coronavirus-lessons-from-the-asteroid-that-didnt-hit-earth-11585780465?mod=opinion_lead_pos5

COVID-19 Deaths in Europe: Excess Mortality is – DOWN?

By Roy Spencer, His Blog, Mar 29, 2020

<http://www.drroyspencer.com/2020/03/covid-19-deaths-in-europe-excess-mortality-is-down/>

Model Issues

Numerators and Denominators in the Coronavirus Saga

By Clarice Feldman, American Thinker, Mar 29, 2020

https://www.americanthinker.com/articles/2020/03/numerators_and_denominators_in_the_corona_virus_saga.html

Measurement Issues -- Surface

Missing Warming: Data Show Northwest China Has Seen No Significant Temperature Changes Since 1997!

By Kirye and Pierre Gosselin, No Tricks Zone, Mar 28, 2020

<https://notrickszone.com/2020/03/28/missing-warming-data-show-northwest-china-has-seen-no-significant-temperature-changes-since-1997/>

NASA, University of Nebraska Release New Global Groundwater Maps and U.S. Drought Forecasts

By Ellen Gray for GSFC News, Greenbelt MD (SPX), Apr 01, 2020

https://www.terradaily.com/reports/NASA_University_of_Nebraska_Release_New_Global_Groundwater_Maps_and_U_S_Drought_Forecasts_999.html

Link to maps: Groundwater and Soil Moisture Conditions from GRACE-FO Data Assimilation for the Contiguous U.S. and Global Land

<https://nasagrace.unl.edu/>

Link GRACE-FO: Measuring Earth's Surface Mass and Water Changes

<https://gracefo.jpl.nasa.gov/>

Measurement Issues -- Atmosphere

UAH Global Temperature Update for March 2020: +0.48 deg. C

By Roy Spencer, His Blog, Apr 1, 2020

<http://www.drroyspencer.com/2020/04/uah-global-temperature-update-for-march-2020-0-48-deg-c/>

Link to: Global Temperature Report, March 2020 maps and graphs

By Staff, Earth System Science Center, University of Alabama in Huntsville

Map: https://www.nsstc.uah.edu/climate/2020/march/202003_map.png

Graph: https://www.nsstc.uah.edu/climate/2020/march/202003_bar.png

Australia Bushfire Smoke Now Warming the Lower Stratosphere? March 2020 Update

By Roy Spencer, His Blog, Apr 1, 2020

<http://www.drroyspencer.com/2020/04/australia-bushfire-smoke-now-warming-the-lower-stratosphere-march-2020-update/>

Changing Weather

4 major hurricanes are predicted as part of an above-normal 2020 Atlantic hurricane season

By Judson Jones, CNN, Apr 2, 2020

<https://www.cnn.com/2020/04/02/weather/2020-atlantic-hurricane-season/index.html>

Link to report: Extended-Range Forecast of Atlantic Seasonal Hurricane Activity for 2020

By Klotzbach, Bell, and Jones, Dept of Atmospheric Science, Colorado State, Apr 2, 2020

<https://tropical.colostate.edu/media/sites/111/2020/04/2020-04.pdf>

From the report: "As is the case with all hurricane seasons, coastal residents are reminded that it only takes one hurricane making landfall to make it an active season for them. They should prepare the same for every season, regardless of how much activity is predicted."

Extra warm U.S. winter had nature's thumbprint on it—Joe Bastardi

By Paul Homewood, Not a Lot of People Know That, Apr 3, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/04/03/extra-warm-u-s-winter-had-natures-thumbprint-on-it-joe-bastardi/#more-44245>

“Joe finishes by mapping out how small variations in the pattern of SSTs led to the snowmageddon in 2010.

“It is a reminder that it is the oceans which drive our weather. As Joe puts it:

“Minute increases in CO2 are not going to push around the oceans, whose cycles are decades and in some cases even longer in the making.”

It's Bizarre: March was Colder than January In Seattle

By Cliff Mass, Weather Blog, Apr 2, 2020

<https://cliffmass.blogspot.com/2020/04/its-bizarre-march-was-colder-than.html>

New WMO Assessment of Tropical Cyclones and Climate Change, Lee et al. 2020

By Roger Pielke Jr. His Blog, Mar 24, 2020

<https://rogerpielkejr.com/2020/03/24/new-wmo-assessment-of-tropical-cyclones-and-climate-change-lee-et-al-2020/#more-1410>

Link to paper: Third Assessment on Impacts of Climate Change on Tropical Cyclones in the Typhoon Committee Region – Part I: Observed Changes, Detection and Attribution

By Lee, T. C., Knutson, T. R., Nakaegawa, T., Ying, M., & Cha, E. J., Tropical Cyclone Research and Review, Mar 20, 2020

<https://www.sciencedirect.com/science/article/pii/S2225603220300114>

[SEPP Comment: According to Pielke's Blog, he will be posting a more complete analysis later. Based on the review by TWTW, there is no significant change attributable to carbon dioxide-caused global warming.]

Changing Climate

A century of reduced ENSO variability during the Medieval Climate Anomaly

By A.E. Lawman, et al., Paleoceanography and Paleoclimatology, Feb 27, 2020 [H/t Judith Curry]

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019PA003742?campaign=wolacceptedarticle#.XmjzaU1z3KQ.twitter>

Coral tells a tale of El Niño's past

Study reveals Pacific temperatures over a millennium

Press Release, NSF, April 2, 2020

https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=300314&WT.mc_id=USNSF_1

Link to paper: No consistent ENSO response to volcanic forcing over the last millennium

By Sylvia Dee, et al., Science, Mar 27, 2020

<https://science.sciencemag.org/content/367/6485/1477>

Traces of ancient rainforest in Antarctica point to a warmer prehistoric world

Press Release, Imperial College, London, Apr 1, 2020

https://www.eurekalert.org/pub_releases/2020-04/icl-toa033020.php

Changing Seas

Fastest sea level rise since a short while ago

By John Robson, Climate Discussion Nexus, Apr 1, 2020

<https://climatediscussionnexus.com/2020/04/01/fastest-sea-level-rise-since-a-short-while-ago/>

Link to paper: A Preindustrial Sea- Level Rise Hotspot Along the Atlantic Coast of North America

By W. R. Gehrels, et al., Geophysical Research Letters, Mar 9, 2020

<https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1029/2019GL085814>

From Summary: We found evidence in three locations (Nova Scotia, Maine, and Connecticut) for rapid sea-level rise in the 18th century, which was almost as rapid as the 20th century sea-level rise. Using additional sea-level reconstructions from across the North Atlantic, we propose an explanation for the periods of enhanced sea-level rise. We hypothesize that they occur during **distinct phases of the North Atlantic Oscillation** and during periods of enhanced ice melt in the Arctic. **The fluctuations are a reoccurring feature** and should be considered in planning for future sea-level rise and coastal hazards. [Boldface added.]

Finding sea levels

By John Robson, Climate Discussion Nexus, Apr 1, 2020

<https://climatediscussionnexus.com/2020/04/01/finding-sea-levels/>

'Studies' Indicate Disappearing Beaches. Markets Think Studies Idiotic

By John Tamny, Real Clear Markets, March 26, 2020

https://www.realclearmarkets.com/articles/2020/03/24/studies_indicate_disappearing_beaches_markets_think_studies_idiotic_486331.html

[SEPP Comment: Based on what they do rather than on what they say, so do Obama and Al Gore, who purchased seaside homes!]

Changing Cryosphere – Land / Sea Ice

Rare ozone hole opens over Arctic — and it's big

Cold temperatures and a strong polar vortex allowed chemicals to gnaw away at the protective ozone layer in the north.

By Alexandra Witze, Nature, Mar 27, 2020

<https://www.nature.com/articles/d41586-020-00904-w>

Is Greenland Warming, Melting? Hell No! NASA Data Show No Warming In Nearly 100 Years!

By Kirye and Pierre Gosselin, No Tricks Zone, Apr 3, 2020

<https://notrickszone.com/2020/04/03/is-greenland-warming-and-melting-hell-no-nasa-data-show-no-warming-in-nearly-100-years/>

No Trend In Arctic Sea Ice

By Tony Heller, Real Climate Science, Apr 1, 2020

<https://realclimatescience.com/2020/04/no-trend-in-arctic-sea-ice/>

Changing Earth

In Earth's largest extinction, land animal die-offs began long before marine extinction

New dates for fossils indicate land animal turnover extended for hundreds of thousands of years
Press Release, Univ of Cal, Berkeley, Mar 27, 2020 [H/t WUWT]

https://www.eurekalert.org/pub_releases/2020-03/uoc--iel032720.php

Link to paper: The base of the Lystrosaurus Assemblage Zone, Karoo Basin, predates the end-Permian marine extinction

By Robert Gastaldo, et al., Nature Communications, Mar 13, 2020

<https://www.nature.com/articles/s41467-020-15243-7>

Antarctica's Geology

By Staff, British Antarctic Survey, Foreign & Commonwealth Office, Royal Geographical Society, Accessed Apr 2, 2020

<https://discoveringantarctica.org.uk/oceans-atmosphere-landscape/ice-land-and-sea/antarcticas-geology/>

Acidic Waters

New Study: Coral Reefs Thrive Near Acidic Waters (pH ~6.0) Where Seafloor Vents Emit Up To 95,000 ppm CO₂

By Kenneth Richard, No Tricks Zone, Mar 30, 2020

<https://notrickszone.com/2020/03/30/new-study-coral-reefs-thrive-near-acidic-waters-ph-6-0-where-seafloor-vents-emit-up-to-95000-ppm-co2/>

Link to one study: Submarine Groundwater and Vent Discharge in a Volcanic Area Associated With Coastal Acidification

By M. Bayani Cardenas, et al., Geophysical Research Letters, Jan 3, 2020

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019GL085730>

According to the essay in phys.org: “[University of Texas at Austin Professor Bayani] Cardenas discovered the region—which he calls “Soda Springs”—while studying how groundwater from a nearby island could affect the ocean environment of the Verde Island Passage in the Philippines. The passage is one of the most diverse marine ecosystems in the world and is home to thriving coral reefs.”

Lowering Standards

Lancet Editor’s Backing For Extinction Rebellion

By Paul Homewood, Not a Lot of People Know That, Mar 28, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/28/lancet-editors-backing-for-extinction-rebellion/>

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

The Atlantic Says 2.2 Million [Americans] Will Die By The End Of Summer

By Tony Heller, Real Climate Science, Mar 30, 2020

<https://realclimatescience.com/2020/03/the-atlantic-says-2-2-million-will-die-by-the-end-of-summer/>

“You lack the qualifications to dispute these experts.”

Whales face more fatal ship collisions as waters warm

By Patrick Whittle, AP, Mar 28, 2020 [H/t Bernie Kepshire]

<https://www.8newsnow.com/news/national-news/whales-face-more-fatal-ship-collisions-as-waters-warm/>

[SEPP Comment: Trolling for a grant? Or desiring to expand protected zones?]

Communicating Better to the Public – Make things up.

Global Warming To Drown New York And New Orleans

By Tony Heller, Real Climate Science, Mar 30, 2020

<https://realclimatescience.com/2020/03/global-warming-to-drown-new-york-and-new-orleans/>

[SEPP Comment: Heller uses a video on Thwaites Glacier, Antarctica, which claimed that no one had ever seen the well-known glacier before.]

Evolutionary Traits that Enable Scleractinian Corals to Survive Mass Extinction Events

By Gal Dishon, et al., Nature, Scientific Reports, Mar 3, 2020

<https://www.nature.com/articles/s41598-020-60605-2>

From the abstract: “While these results could be seen as promising, that some corals may survive **the Anthropocene extinction**, they also highlight how our relatively-fragile Primate order does not possess analogous “survival” characteristics, nor have a record of mass extinction survival as some corals are capable.”

Guardian’s Latest Fake Greenland Meltdown Claims

By Paul Homewood, Not a Lot of People Know That, Mar 29, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/29/guardians-latest-fake-greenland-meltdown-claims/>

Communicating Better to the Public – Go Personal.

DeSmogBlog: Climate Activist Site Smears Freeman Dyson And Other Scientists

The website’s strategy is clear: Throw ad hominem attacks as early and as often as possible. Why? Because it works. And the people most eager to spread the lies are self-proclaimed skeptical scientists and journalists.

By Alex Berezow, ACSH, Mar 23, 2020

<https://www.acsh.org/news/2020/03/23/desmogblog-climate-activist-site-smears-freeman-dyson-and-other-scientists-14651>

“These lies went viral on social media and were subsequently parroted by other outlets, such as Skeptical Science, which is operated by George Mason University Professor John Cook. (See image on right. I contacted Dr. Cook, explained its gross inaccuracy, and asked him to remove it. I was ignored. Such is the state of the "skepticism" movement.)”

[SEPP Comment: The “skepticism movement” is run by global warming advocates who personally attack those demanding evidence that CO2 is causing dangerous global warming.]

Communicating Better to the Public – Protest

‘Extinction Rebellion’ (XR) Followers Want Humans To Go Extinct...”Humans Are The Disease!’

By P Gosselin, No Tricks Zone, Mar 31, 2020

<https://notrickszone.com/2020/03/31/extinction-rebellion-xr-followers-want-humans-to-go-extinct-humans-are-the-disease/>

Expanding the Orthodoxy

Senior WHO Advisor Urges a Climate Action Response to Covid-19

By Eric Worrall WUWT, Apr 2, 2020

<https://wattsupwiththat.com/2020/04/02/senior-who-advisor-urges-a-climate-action-response-to-covid-19/>

Climate Research Universities Unite to Accelerate Action

By Eric Worrall, WUWT, Apr 1, 2020

<https://wattsupwiththat.com/2020/04/01/climate-research-universities-unite-to-accelerate-action/>

Link to declaration: Climate Research Universities Unite to Accelerate Action

By Staff International Universities Climate Alliance, Apr 2, 2020

<https://www.universitiesforclimate.org/media-release/>

Climate Crisis RIP: People Will Be In No Mood To Stay In Panic Mode After COVID-19 Scare Ends

By P Gosselin, No Tricks Zone, Apr 1, 2020

<https://notrickszone.com/2020/04/01/climate-crisis-rip-people-will-be-in-no-mood-to-stay-in-panic-mode-after-covid-19-scare-ends/>

Questioning European Green

German Car Industry Calls On EU To Drop Tighter CO2 Emission Targets

By Staff, GWPF & Clean Energy Wire & The Local, Apr 3, 2020

<https://www.thegwpf.com/german-car-industry-calls-on-eu-to-drop-tighter-co2-emission-limits/>

Questioning Green Elsewhere

COVID-19 Relief Bill Passes without Frivolous Green Baggage

By Myron Ebell, CEI, Mar 27, 2020

<https://cei.org/blog/covid-19-relief-bill-passes-without-frivolous-green-baggage>

Stimulus IV: Last Chance for the Green New Deal?

By Mark Krebs, Master Resource, Apr 2, 2020

<https://www.masterresource.org/krebs-mark/stimulus-iv-green-new-deal/>

“Excerpts from H.R. 5416:

“(6) ELECTRIFICATION.—The term ‘electrification’ means the installation, construction, or use of end-use electric technology that replaces existing fossil-fuel-based technology.”

Goodbye, Green New Deal

By Kevin Williamson, National Review, Mar 27, 2020

<https://www.nationalreview.com/2020/03/goodbye-green-new-deal/>

San Francisco bans reusable bags in coronavirus fight

By Kaelsn Deese, The Hill, Apr 2, 2020

<https://thehill.com/homenews/news/490835-san-francisco-bans-reusable-bags-in-coronavirus-fight>

Funding Issues

How About Another \$2 Trillion For "Infrastructure"?

By Francis Menton, Manhattan Contrarian, Apr 2, 2020

<https://www.manhattancontrarian.com/blog/2020-4-2-now-its-another-2-trillion-for-infrastructure>

It's A Good Thing That The Federal Government Has Infinite Resources

By Francis Menton, Manhattan Contrarian, Mar 31, 2020

<https://www.manhattancontrarian.com/blog/2020-3-31-its-a-good-thing-that-the-federal-government-has-infinite-resources>

The Political Games Continue

Climate Researchers Fear The Coronavirus Pandemic Could End Up Politicized

By Sam Brasch, CPR, Mar 30, 2020

<https://www.cpr.org/2020/03/30/climate-researchers-fear-the-coronavirus-pandemic-could-end-up-politicized/>

[SEPP Comment: As climate researchers politicized climate science by ignoring atmospheric temperature trends?]

Nearly \$2T stimulus package omits direct renewable sector aid after Trump, McConnell opposition

By Catherine Morehouse, Utility Dive, Mar 26, 2020

<https://www.utilitydive.com/news/nearly-2t-stimulus-package-omits-direct-renewable-sector-aid-after-trump/574887/>

[SEPP Comment: Why should they have aid for a temporary disruption, their costs a largely capital costs, not operations and maintenance?]

Subsidies and Mandates Forever

Rent Seeking Goes Viral (competing energies seek special favor)

By Robert Bradley Jr., Master Resource, Mar 31, 2020

<https://www.masterresource.org/rent-seeking/rent-seeking-gets-gross/>

“When government favor is offered to some businesses or industries, expect other businesses or industries to ask for the same—or more. In the current Pandemic, competing energy trade associations predictably wrote letters to lawmakers and have lobbied hard behind the scenes to get special treatment.”

EPA and other Regulators on the March

EPA finds asbestos poses cancer risks for workers, reigniting calls for ban

By Rachel Frazin, The Hill, Apr 1, 2020

<https://thehill.com/policy/energy-environment/490702-epa-finds-asbestos-poses-cancer-risks-for-workers-prompting-calls>

Link to report: Draft Risk Evaluation for Asbestos

By Staff, EPA, Mar 2020

https://www.epa.gov/sites/production/files/2020-03/documents/1_draft_risk_evaluation_for_asbestos_pub.pdf

EPA Announces Extended Comment Period on Supplement to Science Transparency Proposed Rule

Press Release, EPA, Apr 2, 2020

<https://www.epa.gov/newsreleases/epa-announces-extended-comment-period-supplement-science-transparency-proposed-rule>

EPA Relaxes Noncompliance Enforcement During COVID-19 Pandemic

By Sonal Patel, Power Mag. Mar 27, 2020

<https://www.powermag.com/epa-relaxes-noncompliance-enforcement-during-covid-19-pandemic/>

Energy Issues – Non-US

Trump’s Ultimate Weapon To End The Oil War

By Simon Watkins, Oil Price.com, Mar 22, 2020

<https://oilprice.com/Energy/Crude-Oil/Trumps-Ultimate-Weapon-To-End-The-Oil-War.html>

Satellites map the global flow of oil

By Staff Writers, Paris (ESA), Apr 3, 2020

https://www.oilgasdaily.com/reports/Satellites_map_the_global_flow_of_oil_999.html

Energy Issues -- US

Civil Rights Leaders Rail Against Enviro Activists, Say Natural Gas Benefits Black Communities

By Chris White, Daily Caller, Mar 30, 2020

<https://dailycaller.com/2020/03/30/natural-gas-civil-rights-fracking/>

NYISO Workers Now Living at Grid Control Centers

By Darrell Proctor, Power Mag, Mar 30, 2020

<https://www.powermag.com/nyiso-workers-now-living-at-grid-control-centers/>

[SEPP Comment: Operating grid transmission is hard enough in an age of unpredictable wind and solar power. Disrupting their personal lives is another burden.]

Pipeline-Starved New York City Avoids Natural Gas Shortages this Winter, but May Face Problems in the Future

By Ben Lieberman, CEI, Apr 2, 2020

<https://cei.org/blog/pipeline-starved-new-york-city-avoids-natural-gas-shortages-winter-may-face-problems-future>

One Of The US's Largest Natural Gas Companies Goes Bankrupt. Here's Why Russia Is Partially To Blame

By Chris White, Daily Caller, Apr 3, 2020

<https://dailycaller.com/2020/04/03/oil-prices-russia-saudi-arabia/>

Oil Industry Deserves to Compete on Its Merits

By Devin Hartman, Real Clear Energy, April 02, 2020

https://www.realclearenergy.org/articles/2020/04/02/oil_industry_deserves_to_compete_on_its_merits_488181.html

Oil and Natural Gas – the Future or the Past?

The world's on the brink of running out of places to put oil

With supply exceeding demand by 12.4 million barrels a day, producers will be forced to cut output by June

By Alex Longley, Bloomberg, Via Financial Post, Mar 26, 2020

<https://business.financialpost.com/commodities/energy/the-worlds-on-the-brink-of-running-out-of-places-to-put-oil>

China Produces Record Amount Of “Fire Ice”

By Irina Slav, Oil Price.com, Mar 30, 2020

<https://oilprice.com/Energy/Natural-Gas/China-Produces-Record-Amount-Of-Fire-Ice.html>

“According to the ministry, the output achieved during this phase of the gas hydrate trials provided a ‘solid technical foundation for commercial exploitation.’”

Nuclear Energy and Fears

Decree delays deadline for start-up of Flamanville EPR

By Staff, World Nuclear News, Mar 31, 2020

<https://www.world-nuclear-news.org/Articles/Decree-delays-deadline-for-start-up-of-Flamanville>

Alternative, Green (“Clean”) Solar and Wind

Two case studies of renewable intermittency-Timera

By Paul Homewood, Not a Lot of People Know That, Mar 30, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/30/two-case-studies-of-renewable-intermittency-timera/>

Link to paper: Two case studies of renewable intermittency

By Staff, Timera Energy, Mar 30, 2020

<https://timera-energy.com/two-case-studies-of-renewable-intermittency/>

From Timera Energy: “We are a consultancy that provides expert advice on value and risk in power, gas & LNG markets. Our work is backed by industry experience.”

From Homewood: “As I have been pointing out for a long while, storage and demand supply response (DSR) are of little use in covering for renewables intermittency.

Homewood: “Even if daily supply and demand could be perfectly smoothed within 24-hour periods, Germany would still need to cover for that missing 500 GWh, equivalent to a capacity of 21GW.”

“In reality, hydrogen and longer duration storage remain pie in the sky, and certainly not options you would want to build an energy policy around.

“Which brings us back to gas.”

Alternative, Green (“Clean”) Energy -- Other

Dying Biofuels: Green Fuel Plants Are Shutting Down and Some May Never Come Back

By Staff, Bloomberg, Via GWPF, Mar 30, 2020

<https://www.thegwpf.com/dying-biofuels-green-fuel-plants-are-shutting-down-and-some-may-never-come-back/>

[SEPP Comment: According to AAA, on March 31 the lowest average gasoline prices in the US, by state, were in Oklahoma at \$1.56. Contrary to the article none was below \$1.00.]

Alternative, Green (“Clean”) Energy -- Storage

Pumped-Storage Hydropower

By Staff, Energy Efficiency & Renewable Energy, Department of Energy, Accessed Mar 30, 2020

<https://www.energy.gov/eere/water/pumped-storage-hydropower>

Pumped storage provides grid reliability even with net generation loss

By Staff, EIA, July 8, 2013

<https://www.eia.gov/todayinenergy/detail.php?id=11991>

Researchers Investigate Pumped Storage in Retired Underground Mines

By Jason Mack, Michigan Tech, Mar 24, 2020

<https://www.mtu.edu/news/stories/2020/march/researchers-investigate-pumped-storage-in-retired-underground-mines.html>

Alternative, Green (“Clean”) Vehicles

Government’s decarbonising transport plan: a good time to bury bad news?

By Paul Homewood, Not a Lot of People Know That, Mar 31, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/03/31/governments-decarbonising-transport-plan-a-good-time-to-bury-bad-news/>

“The Department for Transport (DfT) has launched a consultation paper on the future of UK transport, which calls for a major shift out of cars into cycling, walking and buses, and ‘using cars differently in future’, but hasn’t told anyone about it.”

Health, Energy, and Climate

Losing Doctors on the Battlefield

61 physicians have died in Italy. They’re also dying in France, Indonesia, and the Philippines.

By Donna Laframboise, Big Picture News, Mar 30, 2020

<https://nofrackingconsensus.com/2020/03/30/losing-doctors-on-the-battlefield/>

Sweden — going for herd immunity and using the 1918 Flu plan

By Jo Nova, Her Blog, Apr 2, 2020

<http://joannenova.com.au/2020/04/sweden-going-for-herd-immunity-and-using-the-1918-flu-plan/>

Crucial Facts About Covid-19

By James D. Agresti, Just Facts, Apr 1, 2020

https://www.justfacts.com/news_covid-19_crucial_facts

“The U.S. Centers for Disease Control and Prevention (CDC) emphasizes that ‘this is a rapidly evolving situation,’ and as such, this article will be updated each weekday as the CDC publishes new data.

To Fight The Coronavirus, The World Returns To Fossil Fuels

By Daniel Markind, Forbes, Apr 1, 2020

<https://www.forbes.com/sites/danielmarkind/2020/04/01/to-fight-the-coronavirus-the-world-returns-to-fossil-fuels/#74b8515d1b0b>

As research progresses, the nature of our enemy is becoming ever clearer

By Matt Ridley, His Blog, Mar 29, 2020

<http://www.rationaloptimist.com/blog/corona-research-progresses/>

Britain’s coronavirus testing is bogged down in bureaucracy

By Matt Ridley, His Blog, Apr 2, 2020

<http://www.rationaloptimist.com/blog/britain-corona-bureaucracy/>

Everything you need to know about the USNS Comfort, the giant hospital ship in NYC

The ship has been sent to relieve pressure on the city’s overtaxed hospitals

By Andrew J. Hawkins, The Verge, Mar 30, 2020

<https://www.theverge.com/2020/3/30/21199664/usns-comfort-hospital-ship-nyc-coronavirus-size-beds-history-navy>

The Navy Hospital Ships Sent To Coronavirus Hot Spots Are Outdated. Here’s What Could Replace Them.

By Craig Hooper, Forbes, Mar 31, 2020

<https://www.forbes.com/sites/craighooper/2020/03/31/after-a-gallant-sortie-navy-shipbuilders-are-ready-to-build-new-hospital-ships/#4b15ea3234b7>

Revenge of Gaia

By John Robson, Climate Discussion Nexus, Apr 1, 2020

<https://climatediscussionnexus.com/2020/04/01/revenge-of-gaia/>

“Renaissance Europeans were petri dishes of nasty infections thanks to thousands of years of wading through animal waste, breathing in what they breathed out and vice versa, and getting their blood and worse into our cuts and sores.”

Environmental Industry

Svalbard finds tranquilizing & removing problem polar bears comes with risks to bears

By Susan Crockford, Polar Bear Science, Mar 29, 2020

<https://polarbearscience.com/2020/03/29/svalbard-finds-tranquilizing-removing-problem-polar-bears-comes-with-risks-to-bears/>

Other Scientific News

Bacteria in rock deep under sea inspire new search for life on Mars

By Staff Writers, Tokyo, Japan (SPX) Apr 03, 2020

https://www.marsdaily.com/reports/Bacteria_in_rock_deep_under_sea_inspire_new_search_for_life_on_Mars_999.html

Link to paper: Deep microbial proliferation at the basalt interface in 33.5–104 million-year-old oceanic crust

By Yohey Suzuki, et al., Nature, Communications Biology, Apr 2, 2020

<https://www.nature.com/articles/s42003-020-0860-1>

When three species of human ancestor walked the Earth

By Staff Writers, Tempe AZ (SPX), Apr 03, 2020

https://www.terradaily.com/reports/When_three_species_of_human_ancestor_walked_the_Earth_999.html

Link to paper: Contemporaneity of *Australopithecus*, *Paranthropus*, and early *Homo erectus* in South Africa

By Andy I. R. Herries, et al., Science, Apr 3, 2020

<https://science.sciencemag.org/content/368/6486/eaaw7293>

On Mars or Earth, biohybrid can turn carbon dioxide into new products

Bacteria on nanowires convert sunlight, carbon dioxide and water to organic building blocks

Press Release, U. of California – Berkley, Mar 31, 2020 [H/t WUWT]

https://www.eurekalert.org/pub_releases/2020-03/uoc--omo032620.php

Scientists discover plastic-eating microbe

By Brooks Hays, Washington DC (UPI), Mar 27, 2020

https://www.terradaily.com/reports/Scientists_discover_plastic-eating_microbe_999.html

Other News that May Be of Interest

China Makes Itself A Laughingstock

By Francis Menton, Manhattan Contrarian, Mar 28, 2020

<https://www.manhattancontrarian.com/blog/2020-3-28-china-makes-itself-a-laughingstock>

Comet ATLAS continues to brighten, now with an impressive tail, and it could put on quite a dazzling show next month

By Paul Dorian, WUWT, Apr 2, 2020

<https://wattsupwiththat.com/2020/04/02/comet-atlas-continues-to-brighten-now-with-an-impressive-tail-and-it-could-put-on-quite-a-dazzling-show-next-month/>

Nature takes back world's empty city streets

By Julie Pacorel, Laure Fillon, Paris (AFP) March 29, 2020

https://www.terradaily.com/reports/Nature_takes_back_worlds_empty_city_streets_999.html

BELOW THE BOTTOM LINE:

Astrophysicist gets magnets stuck up nose while inventing coronavirus device

Australian Dr Daniel Reardon ended up in hospital after inserting magnets in his nostrils while building a necklace that warns you when you touch your face

By Naaman Zhou, Guardian, Mar 30, 2020

https://www.theguardian.com/australia-news/2020/mar/30/astrophysicist-gets-magnets-stuck-up-nose-while-inventing-coronavirus-device?utm_campaign=wp_the_daily_202&utm_medium=email&utm_source=newsletter&wpisrc=nl_daily202

Nightingales at risk due to shorter wings caused by climate crisis

By Paul Homewood, Not a Lot of People Know That, Apr 2, 2020

<https://notalotofpeopleknowthat.wordpress.com/2020/04/02/nightingales-at-risk-due-to-shorter-wings-caused-by-climate-crisis/>

“No, it was not an April Fools story after all!”

[SEPP Comment: Perhaps nightingales prefer summering in the south.]

Self-Isolating For The Climate

By Tony Heller, Real Climate Science, Apr 2, 2020

<https://realclimatescience.com/2020/04/self-isolating-for-the-climate/>

“Two women are self-isolating in Svalbard for the climate. They have been there seven months and have seen ‘rapid changes’ in the climate.”

[SEPP Comment: Polar explorers would have called it changes in weather.]

Why Cows Are Not Responsible For Climate Change

Video, GWPF TV, Apr 2, 2020

<https://www.thegwpf.com/why-cows-are-not-responsible-for-climate-change/>

ARTICLES

1. When a Virus Spreads Exponentially

The key to stopping the Covid-19 pandemic lies in lowering the rate at which infections multiply.

By Eugenia Cheng, WSJ, Apr 2, 2020

https://www.wsj.com/articles/when-a-virus-spreads-exponentially-11585850494?mod=hp_lead_pos13

The journalist writes:

“Fighting a pandemic like Covid-19 requires experts in many fields: epidemiologists who study the spread of disease, doctors who treat the sick, scientists who work on finding a vaccine. There is math involved in all of these specialties, but math can also help us to make sense of the barrage of information that we’re receiving daily.

“The starting point is the math of exponential growth. The word “exponential” is sometimes used informally to mean “really fast,” but mathematically it means something very specific: that a quantity is repeatedly multiplied by the same number. When a virus spreads, each infected person goes on to infect a certain number of other people, on average; this is called the reproduction number or R_0 . Then each newly infected person goes on to infect R_0 people, again on average.

“Exponential growth is dangerous, because if each person infects more than one other person, the spread of disease quickly becomes overwhelming. Multiplying by 3, for instance, it only takes 21 steps to reach 10 billion, more than the current population of the world. We start with very low

numbers that seem insignificant, but it's not the absolute numbers that matter, it's the rate at which they're increasing, which also increases exponentially. Waiting until an infectious disease feels like a problem is too late to start addressing it.

“One important feature of exponential growth is that it's not helpful to look at the number of new cases each day. Exponentials increase by multiplication, so it's more relevant to look at the percentage increase each day. This is what “flattening the curve” is about: reducing the rate of multiplication. Eventually we need the rate to be less than one, so that each infected person infects fewer than one new person, producing exponential decay instead of growth.

“Contrary to optimistic hopes, there is no guarantee that the coronavirus will just peter out on its own—at least, not until so much of the population is already infected that there's simply a lack of new people to infect. That is the worst-case scenario. The aim of intervention is to reduce R0 before that.”

After a discussion of prudent actions, the journalist concludes:

“Math can't accurately predict the future of the Covid-19 pandemic, partly because we don't have accurate data about the true number of infections and partly because so much beyond math is involved. We can't predict how human beings will behave, nor can we quantify how much difference that makes. There is a range of possible outcomes, and the one that we end up with is almost certain to be better than the projected worst-case scenario—that's the whole point of a worst-case scenario. How much better depends in part on our behavior, and our behavior should take the math of exponentials into account.”

2, Coronavirus Models of Uncertainty

The range of outcomes is large and the worst case far from likely.

Editorial, WSJ, Mar 30, 2020

https://www.wsj.com/articles/coronavirus-models-of-uncertainty-11585609865?mod=hp_opin_pos_1

The editorial states:

“President Trump on Sunday said he was persuaded by coronavirus pandemic models to extend national social distancing guidelines through the end of April. The White House plans to lay out the data and assumptions behind the decision on Tuesday, and we look forward to that. Meanwhile, we thought readers might appreciate a dive into one of the more prominent Covid-19 models to look at the wide range of outcomes—and how much uncertainty there continues to be.”

“White House coronavirus coordinator Deborah Birx said its assessment of how the pandemic would unfold closely mirrors the University of Washington's Institute for Health Metrics and Evaluation, the so-called Murray model. That group last week estimated 81,114 deaths over the next four months, with 95% confidence that the number would be between 38,242 and 162,106.”

[SEPP Comment: How many readers of the WSJ understand what a 95% confidence means or how it refers to 2 sigmas on a Gaussian distribution curve, which may not apply.

“That's a terrible human toll and would be about three times more fatal than the average seasonal flu. But the good news is this fatality forecast is much lower than the 2.2 million that the

President suggested as a worst case. Estimates could still shift significantly, and the Murray group plans to update its model as more data flow in from the states and other countries.

“Importantly, the Murray model measures deaths in terms of population rather than confirmed cases since testing varies geographically. It also extrapolates U.S. fatalities based on evidence from other hot spots and Wuhan in China after government lockdowns. One important data point: It took 27 days after strict social distancing was implemented in Wuhan before daily deaths peaked. New York, California and other states that took early action to close non-essential businesses are merely starting week three.

“Data out of China may not be reliable, and the Murray study underlines that “modeling for US states based on one completed epidemic, at least for the first wave, and many incomplete epidemics is intrinsically challenging.” This is why the estimates are likely to change in the coming days and weeks.”

After presenting some projections from the Murray model, the editorial concludes:

“Statistical models are a crucial but not the only factor that political leaders should heed as they make decisions in the public interest. And none of these estimates assumes progress from new treatments that could reduce deaths and hospitalizations. Widespread testing—especially for antibodies for those who developed immunity, as Germany is planning to do—will also be valuable in planning an exit from the sledgehammer of our national lockdown.

“April is going to be a brutal month for America, and the next two weeks especially. But as the bad news arrives, it’s important to understand that the worst-case-scenarios that many in the media trumpet are far from a certain fate.”
