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FOS MEMBERSHIP QUARTERLY NEWSLETTER
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"FoS is dedicated to providing the public with insight into Climate Science"

PRESIDENT'S MESSAGE

Effective as of our society's annual general meeting, I have resigned as a director and president of your society. My wife and I are preparing to take an extended road trip across Canada to the Maritimes and down the east coast of the United States. I will miss my involvement in the society and the comradeship of the many fine people who I have been privileged to work with.

I take leave knowing that Friends of Science will continue to advance its mandate of educating and communicating the scientific evidence regarding climate change and the disastrous outcomes of misusing science for ideological and self-serving purposes. The respect and impact which Friends of Science is garnering despite the challenge of limited financial resources speaks exceptionally well of our dedicated volunteers and consultants.

Your new president, Ken Gregory, is incredibly knowledgeable about the science of climate change and very dedicated to communicating the facts to the public. Along with a number of members who have significantly increased their involvement in the society, I am confident that Friends of Science can significantly increase its public influence. The potential is dependent upon our member's commitment to support our society.

As I travel, I will eagerly follow the progress of Friends of Science as communication allows.

Truly,

Warren Blair

As your newly elected president, I thank our prior president Warren Blair, for his dedication and leadership of the Friends of Science Society during the last two years. I wish Warren and Debbie all the best during their road trip across Canada and the United States.

I was gratified that U.S. President Trump made the correct decision to withdraw from the Paris climate agreement. That agreement will do almost nothing to affect climate change because the climate sensitivity to greenhouse gas emissions is small, and many of the large emitters have no obligation to reduce emissions. The Paris agreement will do much economic harm, reducing the ability of nations to cope with climate change, whether warming or cooling. We hope that with President Trump dumping the Paris Agreement other countries including Canada will be pressured by voters to reduce the economic harm caused by emission reduction policies.

The effectiveness of Friends of Science depends on its members to fund our activities and to use the information provided in our newsletters, news releases and posted articles as information to share with others. We ask you to post links to our material in social media. Please write letters to newspapers, politicians and decision makers advocating for policies that recognize the huge potential economic damage, the lack of balance, and ineffectiveness of the Paris agreement. Please help us educate the media and policy-makers of the wasteful, often tragic unintended consequences of the obsessive focus on carbon dioxide (CO_2) reduction. Canada benefits greatly from modest warming and CO_2 fertilization. This is poorly understood by the public.

Our news releases reach a much larger audience in the US and unfortunately, Canadian media rarely publish our viewpoints. I hope that our outreach will lead to many more articles published in the Canadian media and more skeptics speaking on radio programs.

The society has approved changes to the main Friends of Science website which will make it mobile friendly and more modern looking. Over the last three months, 15 excellent articles were posted to our blog, see here, five new videos where posted to our YouTube page here, 6 news releases here and 8 article here were posted on our Friends of Science website. Please share these informative articles and videos.

Ken Gregory
President, Friends of Science

POLITICAL DEVELOPMENTS

US Withdraws from the Paris Climate Accord

On June 1 President Trump made his long anticipated announcement from the White House Rose Garden, stating that the US will withdraw from the Accord and "…cease all implementation of the non-binding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country. This includes ending the implementation of the nationally determined contributions and, very importantly, the Green Climate Fund which is costing the United States a vast fortune." However, the announcement said that the US would begin negotiations to re-enter the Accord or an entirely new agreement on terms fair to the US. Among the reasons cited for the decision:

- Staying in would mean 2.7 million lost jobs by 2025.
- Staying in would cut, by 2040, paper production by 12%, cement by 23%, steel by 38%, coal by 86%, and natural gas by 31%.
- The Accord allows China to increase its emissions for 13 years.
- Indian participation in the Accord is contingent on receiving billions in aid from developed countries.
- The Accord is less about climate and more about other countries gaining advantage over the US.
- The Green Climate Fund would obligate the US to commit tens of billions of dollars to developing countries on top of existing foreign aid.
- The US has among the most abundant energy reserves on the planet, but the Accord puts them under lock and key.
- Even if all the pledges under the Accord were met, the difference to the global climate by 2100 would be only 0.2°C.

Prior to the June 1 announcement, Mr. Trump was pulled in three directions. Environmental Protection Agency Administrator Scott Pruitt was the leading voice for a complete withdrawal. Secretary of State Rex Tillerson advocated remaining in the deal, and Energy Secretary Rick Perry wanted to renegotiate the terms of the Accord. At NATO and G7 meetings in late May Mr. Trump faced three straight days of pressure from European leaders not to pull the US out of the Accord. Nevertheless he resisted the entreaties, promising to issue a statement the following week.

Reaction to the June 1 announcement was immediate. In the US Democratic officials, including the mayors of New York City and Pittsburgh, and the governors of California, New York and Washington all vowed to meet the Paris goals. Environmentalists panicked over Mr. Trump's decision. A former head of Greenpeace called it "… a suicide note for the rest of the world." The Sierra Club issued a statement calling the withdrawal a "historic mistake" and stating: "…will cede America's role internationally to nations like China and India, which will benefit handsomely from embracing the booming clean energy economy." Prime Minister Justin Trudeau, while "deeply disappointed," insisted that Canada "is unwavering in our commitment to fight climate change and support clean economic growth."

Others voiced different opinions on the withdrawal. Bjørn Lomborg applauded the decision to leave the

Accord, calling it the "most expensive global agreement in world history" that ".will do almost nothing to fix climate change." A *Real Clear Science* post provides the scientific reason for leaving the Accord: it relies on the failed predictions of climate models. Even *Nature Climate Change* published an article arguing that if the US stayed in the Accord, it would water down details still to be worked out (the "Paris rulebook"), and following withdrawal there could be positive opportunities, such as "border carbon adjustments" on US goods and emboldened climate action by other powers to "show more effective climate leadership."

At the G20 summit in Hamburg, July 7-8 Mr. Trump will doubtless hear reactions to his June 1 announcement from some of his colleagues. Nevertheless, chances of the final G20 communiqué containing any statement about climate are slim. At a March meeting of finance ministers, opposition from the US and Saudi Arabia forced officials to drop from the joint statement any mention of financing action on climate change.

After the G20 meeting, the COP23 climate summit in Bonn, November 6-17 should be the first major international test of the effect of the US announcement. The UNFCCC's website asserts that US withdrawal from the Accord cannot take effect until November 2020, which means that, theoretically, US officials will still continue to participate in sessions related to implementation of the Accord (including nationally determined contributions.) But, what will concern most of the delegations – particularly those from developing countries that were counting on free climate money from the rich world – is the fact that there won't be any US contributions for four years at least. While European nations, China, Canada and others will doubtless reaffirm their commitment to the goals of the Paris Accord, it is unlikely that any will impose on their citizens any acceleration of emissions reductions or promise significantly more money to the Green Climate Fund. The final communiqué from COP23 should be interesting.

Since June 1, Friends of Science has published three essays related to the Trump announcement. *Just the Facts Please* by Robert Lyman poses and answers six questions about the Accord, including what countries committed to do, how previous agreements worked out, whether China really is a leader in addressing global warming, and projected greenhouse gas emissions. *Where Will the UN Get Its Climate Money Now,* also by Mr. Lyman, addresses the history of the Green Climate Fund and predicts that Western countries will default on their commitments to the GCF. *Outcome of the Paris Accord: a re-founding act of American democracy?* provides a European view by Belgium philosopher and jurist Drieu Godefridi, who sees the exit of the Trump Administration as a sensible return to American democracy from its takeover by globalists and minority view activists.

Ian Cameron
Director, Friends of Science

SCIENCE NEWS

The Vostok Ice Core and the 14,000 Year CO_2 Time Lag

The Vostok ice core record is one of the best records of Earth's temperature and greenhouse gas history. This graph overlays the carbon dioxide (CO_2) and temperature record across the interglacial (238,000 years ago) after the third ice age before the present. It shows the CO_2 rising 800 years after temperatures rise.

Euan Mearns at the blog Energy Matters writes an excellent analysis of temperature, CO_2 and methane variation across the Eemian interglacial, which was the precious interglacial. The peak of the Eemian was 129,000 years ago. Mearns writes that at the end of the Eemian, "CO_2 does not follow temperature down for 14,200 years. Full glacial conditions came into being without falling CO_2 providing any of the climate forcing. This falsifies the traditional narrative that dCO_2 amplified weak orbital forcing effects." CO_2 changes played no part in the onset of the last ice age. The high CO_2 levels during the Eemian does not prevent the ice age from beginning.

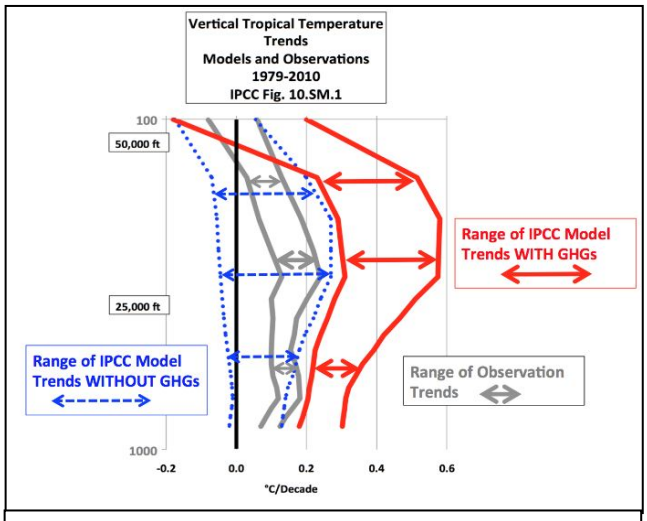
Mearns also finds the methane behaves quite differently than CO_2. At the termination of the ice age before the Eemian, methane lags the temperature rise by about 2,000 years, but it declines almost exactly with

temperature after the Eemina. The methane concentration fall of 200 parts per billion was too tiny to have caused or amplified the temperature decline.

CO_2 rises with temperature at the end of a glaciations because the CO_2 is expelled from the oceans. Methane increased due melting permafrost which caused increasing biological activity. See Euan Mearns' article here.

What causes the end of an ice age? Continually falling CO_2 levels during an ice age eventually causes plants to die resulting in high plateau sand deserts. Winds blow dust and sand onto ice sheets that reduces their albedo. The combination of increasing solar energy absorption on the dirty ice sheets and the next "great summer" of high solar insolation due to the Earth's precession results in rapid ice sheet melting and the start of an Interglacial period. Low CO_2 levels together with high solar forcing cause the end of an ice age, see here.

IPCC; Why Was Important Atmospheric Temperature Trend Data Not in the Body of the Report?



Simplification of IPCC AR5 figure 10.SM.1 by Dr. J. Christy (Click image for larger size)

Dr. John Christy produced a simplified version of a graph that was placed in supplemental materials of chapter 10 of the Intergovernmental Climate Change (IPCC) fifth assessment report (AR5). The graph compares actual atmospheric temperature trends for the period 1979-2016 to simulated climate models trends. The measured trends were difficult to see in the original AR5 graph. The suite of climate models was run with greenhouse gases (GHG) and without GHG. Dr. Christy's graph shows that throughout the troposphere, the climate model range of trends without GHG overlay the actual measurements, but the climate model range of trends forced with GHG are all greater than all of the measured trends. There is no equivalence between the model average trend and the observational datasets at the 99% confidence level. Dr. Christy writes that the figure shows the "bulk tropical atmospheric temperature change is modeled best when no extra GHGs are included – a direct contradiction to the IPCC conclusion that observed changes could only be modeled if extra GHGs were included."

As a reviewer for the IPCC, Dr. Christy "had insisted" that this important graph be shown in the main report. Instead it was published in the supplemental section, all but buried. It appears that critical information that is contrary to the IPCC's catastrophic global warming theory was buried in rarely read supplemental material, contrary to the IPCC commitment to be "transparent and reliable". See here.

Ultra-violet Solar Forcing of Climate

Several papers have been published recently that show the highly variable ultra-violet (UV) part of the solar spectrum causes significant climate change. A paper by Gray et al 2017 documents a significant correlation between the UV solar forcing and the sea-level pressure at a 3 to 4 years lag after solar maximum, consistent with a positive North Atlantic Oscillation (NAO) anomaly. The NAO is the oscillation in sea-level pressures between the Iceland and Azores regions. This lagged response in sea-level pressure is significant back to 1660. A positive NAO is associated with warmer sea surface temperatures.

Increasing UV solar radiation causes stratospheric heating of ozone in the tropics, which results in stronger westerlies in the subtropics. A model study shows this has a profound effect on planetary wave propagation. This leads to a more stable polar vortex during high solar activity. The positive NAO anomalies are associated with periods of a strong, undisturbed polar vortex. Numerous studies show that zonal winds in

the lower stratosphere in winter affects the mid-latitude Atlantic jetstream, which extends the solar stratosphere influence to the surface.

Declining solar activity leads to a disturbed polar vortex at solar minimums, a negative NAO, more excursions of cold Arctic air to mid-latitudes, more snow, possibly more cloud and higher albedo. The sea surface cooling response to a negative NAO produced during the winter will persist below the mixed-layer of the ocean during the following summer and re-emerge at the beginning of the next winter. This reinforces the next winters NAO anomaly through feedback by the ocean from the previous winter's sea surface anomaly, thus resulting in a surface response that lags the solar forcing by 3 to 4 years. See the paper here.

Ken Gregory
President, Friends of Science

Check out our social media platforms:

climatechange101.ca	new bilingual website
friendsofscience.org	a virtual library on climate change
twitter.com/FriendsOScience	our active twitter feed
facebook.com/FoSClimateEd	very active Facebook page
youtube.com/FriendsofScience/videos	more than 135 mostly short videos
blog.friendsofscience.org	our blog with reports and articles. Note the new URL
linkedin.com/company/Friends-of-Science-Society	new LinkedIn page

DONATIONS

You can help us expand our pool of members and donors. Do you have a local chamber of commerce or service club? Invite one of our speakers or ask for one of our presentations and present it yourself (or perhaps do your own version if you feel up to it). If every person brought us five new people, it would make a big difference to our message.

This debate matters, you are making a difference.

Please continue to make donations to Friends of Science and to email, tweet and Facebook share our materials. We can be a voice for your climate change issues – and we thank all of you who have given us tips on the misinformation they see in the marketplace. We have made aggressive outreach efforts with short, current commentaries on video. This is an ongoing cost, but we get good response from people who would might not read our reports. We need 'all hands on deck' this year, as there will be an IPCC conference in Montreal in the fall, and another in Edmonton in the early spring of 2018. This will be challenging for us - but it also will raise our profile and all kinds of opportunities to respond and call out the ideological side for their lack of due diligence. **For us to make sure our voice is heard, we will need much more support - personal, financial, and through your networks of friends and colleagues**. Thank you for your continued support.

To make a contribution at www.friendsofscience.org; click on Become a Member/DONATE in the upper right of the home page. If you prefer to phone us to pay by credit card please call 1-888-789-9597 Ext 2.

Alternately, you can mail donations to Friends of Science at the following address:

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