

Retraction Watch: from 23. April, 2018

Flawed climate science paper “exposed potential weaknesses” in the peer review process

H. Harde: # Comment-1596587, 29. April 2018

Blogs like this one are searching for sensations. Sometimes it is not so important to present objective and independent inquests but to write a good story. I don't say this is the case for this story, but it doesn't sound very impartial, when I read as the first sentence after the appeal for donations:

"How did a **deeply flawed** [paper](#), which contradicts mainstream science on climate change, pass peer review?"

Is this blogger team so qualified in climate sciences to judge about a paper, which indeed contradicts mainstream science? Or is it more politics and climate religion, which never have been reliable guideposts for serious science?

I presented an alternative concept for the carbon cycle, which different to the IPCC mainstream also includes time and temperature dependent variations in the natural emission-absorption cycle of CO₂. We have many indications that the various mechanisms, along with their dependence on temperature and other environmental properties have not remained constant during the pre-industrial era. This inconsistency invalidates the fundamental assumption, that natural emission and absorption during the pre-industrial period did remain constant. Even less this is valid over the industrial era, a period which is characterized by the IPCC as the fastest rise in temperature over the Holocene or even the last interglacial. Science always has to question if the assumptions on which a theory is based, are reliable, and this cannot be decided by voting or by religion, only by facts and arguments which are in agreement with all physical laws.

Before this blog was published I was contacted by Victoria Stern from Retraction Watch, but I had no knowledge about the actual [commentary](#) of Global and Planetary Change (GPC) and therefore could not respond on the editor board's commentary. At that time I sent her all necessary information about the publication process of the paper, in particular my correspondence with the editor and publisher of GPC concerning the Comment/Reply process (see Modis Operandi: <https://hhgpc0.wixsite.com/climate-unsience>). This Comment/Reply process was and is the real controversy with the journal, but this is not found on this blog, instead it is a one-to-one copy of the editor board's commentary. And it is also very unilaterally described in this commentary.

It sounds noble that GPC installed a committee consisting of three board members to find out what went wrong in this publication process and to suggest some modifications in the reviewer process. These editorial members announced but didn't really let the community know with *full transparency* what has happened, particularly not what happened with a Reply to a Comment on my paper. Therefore, I have to assist them a bit.

The reader of this blog could learn that an author of GPC can suggest reviewers, which makes it easier for an editor to contact potential reviewers for a specific subject. The editor must not but can consult one or two of these reviewers. In my case I suggested 5 reviewers and apparently one or two of them accepted the invitation of the editor to review my manuscript. After some minor revision concerning the style and clarity the manuscript was accepted. Non of the reviewers or the editor raised any concern about the scientific content.

After the publication, however, the editor was apparently indoctrinated by a Comment on my paper (Köhler et al., 2018) and also by some of his editorial board members, all reciting the standard claims of the climate establishment, which sound:

(1) *Before 1750 the natural carbon cycle was in equilibrium and it also didn't change over the last 270 years. Therefore, this cycle need not be considered in a balance of the in- and out-fluxes into or out of the atmosphere.*

This blog is not the right forum for a longer scientific discussion, the journal with Comment and Reply would have been the right place. Nevertheless, here only a few remarks: When natural flux changes in forehand are excluded and only anthropogenic emissions are considered in a fitting procedure, any agreement with observations can only be traced back to human activities. This is a classical circular reasoning.

In addition, sole consideration of anthropogenic fluxes is identical with the introduction of a new time scale for the uptake of man-made emissions. Since these emissions and also their changes are more than one order of magnitude too small to explain directly the observed concentration changes over recent years, carbon-cycle models need an additional buffer factor, the 'adjustment' time, which ensures a sufficiently long cumulation time of the molecules in the atmosphere and thus, a concentration level, which is in agreement with observations.

It is against all physical principles that almost 100 ppm/yr of natural emissions are exchanged with extraneous reservoirs within 3-4 yr, and for about 2% of additional human emissions an accumulation over thousands of years in the atmosphere is assumed. The reservoirs don't show noticeable saturation in the uptake with increasing CO₂ levels but their emissions and also the uptake are changing with temperature. And in agreement with the equivalence principle and conservation law is the contribution of anthropogenic emissions in the atmosphere only determined by the man-made emission rate (actually 4.3%) to the total emission rate.

(2) *The natural environment has acted as a net carbon sink throughout the Industrial Era, taking in significantly more carbon than it has emitted. Therefore, the observed rise in atmospheric CO₂ cannot be a natural phenomenon* (quote of a GPC editor). These experts forget that the environment is always a net sink, as long as any anthropogenic emissions are present and at the same time native emissions are assumed to be the same since 270 years. Nature always tries to adjust to a new equilibrium after some perturbation, this with an absorption rate, which in first order responds proportional to the actual concentration in the atmosphere. It can easily be shown through well-established physical principles that, if human emission were removed, natural emission and absorption, through their temperature dependence, could change to nullify the deficit, achieving the same increase of CO₂. Otherwise nature could never compensate for seasonal variations, volcanic eruptions or El Niño events, which are of the same order of magnitude or larger than the human contributions. It would be a serious violation of the equivalence principle, when all native emissions can be compensated within a few years but 45% of all anthropogenic emissions are cumulating in the atmosphere over thousands of years.

In their actual commentary about this publication the editorial board writes that during its investigation the journal found that *"the acceptance of this paper has exposed potential weaknesses in the implementation of the peer review system, and quality control mechanisms have failed in this particular case.* They list as the main reason for the failure that **non of the five reviewers** I proposed, can *"be considered as an expert or authority in carbon cycle, carbon or climate sensitivity or similar fields of research."* Such statement can only be understood as disparagement of the editor handling my paper or as proclamation of presumptuous editorial board members, who discredit all scientists not conform with the official IPCC party line. Four of the suggested reviewers are internationally renowned professors of climate science or meteorology working in this field for more than 40 years, the fifth is a distinguished physics professor, who is more than 10 years involved in studies of the greenhouse gases and their influence on the environment. It is also an impertinence to insinuate the two reviewers who recommended publication of the manuscript *"that this may have been because the reviewers lacked the impartiality and scientific expertise to provide an adequate science-based review."* Obviously only these board members with their selective interpretation of the carbon cycle (see above) possess the unrestrained impartiality and scientific expertise to decide about the quality of these reviewers.

H. Harde: # Comment-1596592, 29. April 2018

As already mentioned in the preceding blog comment, the real controversy with GPC emerged from excluding my Reply to a Comment of Köhler et al. To make the journal's philosophy transparent for the community, I try to briefly list the main facts (in more detail this can be found under [Modis Operandi](#)):

- When GPC received the Comment, about one month later not the editor but the publisher of GPC informed me about this Comment. In his email he asked, if I would like to respond with a Reply to the Comment.
- He also explained that they were already starting the review process for the Comment, and due to their framework the reviewers would be the same for the Comment and Reply.
- The authors of the Comment proposed 7 reviewers, all known as representatives of the IPCC industry, and the review process already started with two or three of them, before I could submit my Reply and suggest own reviewers.
- Therefore, before submitting the Reply, I contacted the publisher, how under these circumstances a neutral review process can be ascertained.
- His answer: *"The intention of the Comment/Reply exchange is to further develop the arguments supporting the previous paper, and also to respond to critical points of the authors of the Comment. Even when the reviewers disagree with the content of the Reply, they would be aware of this aspect, and their comments should be considered as suggestions to strengthen the Reply or to add clarity. A Reply would normally only be rejected, if it fails to add significantly to the scientific debate and/or becomes a personal attack on the authors of the Comment."*
- On 2 October, 2017, the editor informed me that reviewers had advised against publishing the Reply and therefore he must reject it. Attached were two, not three reviewer reports.
- Already two days prior the Comment had been published by GPC in electronic form.
- I neither *failed to add significantly to the scientific debate* (see Reply under [Modis Operandi](#)) nor made any personal attacks against the authors of the Comment.
- I never had a chance to respond on any claims or wrong interpretations of the reviewers.
- Since I had serious concerns about the treatment of the review process and particularly concerns over due process, I sent the editor a letter with a copy to the publisher explaining in detail my reservations (see [Modis Operandi](#)).
- I never received a reply to this letter.
- Although with the rejection of the Reply to the Comment the review process was terminated, I sent the editor and publisher a longer clarification concerning the review reports, which were full of misinterpretations, unacceptable claims and imputations.
- I never got an answer.

Therefore, in December I informed several institutions and colleagues about this review process and the censorship of GPC with a link to [Modis Operandi](#). Apparently only this link provoked GPC to publish the commentary of the editor board with its selective perception.

It sounds more than preposterous when these board members write: *The Reply by Harde to the Comment by Köhler et al. (2018) was rejected because it did not add any significant information to the argument put forward in the original paper. In reviewing the Reply, the reviewers felt that Harde's argument is "...too simplistic, based on invalid assumptions, ignores a whole body of observational evidence, and cites selectively literature that has long-time been disproved"*.

It is the easiest way to insult a publication ex post and to suppress any further discussion in a highly polarized debate between two scientific positions, in which the pre-selected reviewers exclusively advocate the fundamentally restricted view of the IPCC's interpretation of the carbon cycle. The reader may convince himself/herself, if the Reply to Köhler et al's Comment wouldn't contain any significant information.

By the way, it is already a well documented procedure to defame authors and publications that contradict the IPCC's claims. In the "Climategate" release of emails the reader can find a discussion which specifically outlines the tactics (including names of editors and journals that would be amenable to it) to write a Comment on an unpleasant article, in which the results of the paper are impeached. This mostly happens without any serious refutations, only the standard claims of the IPCC have to be echoed. The author/s of the Comment propose their own reviewers, as done in this case, the rest is disposed by the editorial process of the journal as described before. So, any serious disputation of the paper's content can be suppressed, and in the future it is simply argued that with the published Comment it has been shown that the paper is erroneous, is in conflict with observations or violates physical laws.

This is our so highly recognized and independent science and publication process, which indeed urgently needs reformation. It stays for itself, when the editors and publisher of GPC allege in the addendum of their commentary that my article attracted considerable attention due to its **flawed content**, a defaming assertion without any evidence. The arbiter of this highly polarized subject cannot be prejudiced editors. Nor shall it be individual reviewers – certainly not reviewers who have been discriminated to one side of this polarized debate. The arbiter must be the scientific community – inclusive of both sides of the debate. As a scientific publisher, Elsevier's responsibility should have been to provide the scientific community with both opposing positions, to enable the community to judge for itself.

So, future and hopefully more rationally thinking generations have to find out, if all is wrong which contradicts the mainstream in climate science.

Reply to Marco

First let's make clear the order of magnitude of human emissions, although this is not the right forum to discuss this here:

If you are integrating all anthropogenic emissions since 1750, giving 660 PgC (fossil fuel emissions and land use change together, CDIAC and CICERO-data), then you have also to sum up the natural emissions of 200 PgC/yr (see AR5-Chapt.6-Fig.6.1) over 267 yr which gives 53,400 PgC.

From this humans have contributed $660/(53,400+660)*100 = 1.2\%$. Actually is the anthropogenic emission rate 4.3% (average over last 10 yr) of the total emission rate.

Of course, all these emissions do not cumulate in the atmosphere but under steady state conditions the same amount is again absorbed by extraneous reservoirs.

The fraction of man-made to native CO₂ in the atmosphere is the same as the respective emission rates. This is a consequence of the fact that all emitted CO₂ to the atmosphere - human or native - is absorbed with the same probability (equivalence principle). Therefore, 4.3% from 393 ppm (again average last 10 yr) gives 16.9 ppm, and from an increase over the industrial era of 113 ppm the 16.9 ppm are 15%.

So, 85% or 96 ppm of this increase apparently must have natural origin. Generally is the total increase a combination of the time dependent anthropogenic emissions, the time dependent and thus temperature dependent native emissions and a reduced uptake by the extraneous reservoirs due to the increasing temperature (a limiting uptake due to saturation effects of the reservoirs is not observed). The time and temperature dependent in- and out-fluxes determine the balance equation, the conservation law of mass. Due to fundamental physical and chemical relations and due to an observed exponential decay of carbon-14 in the atmosphere the uptake of CO₂ in this balance is considered to be proportional to the instantaneous concentration. With the CDIAC-data for anthropogenic emissions and the temperature evolution (e.g., GISS-data) this equation is integrated numerically over time (see: my paper and Reply under Modis Operandi).

This, of course, is in strong contradiction to the simplified interpretation that from the 660 PgC about 45% (297 PgC) would accumulate in the atmosphere and the rest is absorbed. This airborne fraction (AF) of 45%, as found in AR5, would be equivalent to 139 ppm increase since 1750, explaining an even larger incline than observed. However, an approach, where the absorption is assumed to be proportional to the emissions (55%) - not proportional to the concentration -, suffers from the fact that with any additional emissions above those from 1750 the CO₂ concentration further rises and never comes to equilibrium, independent if these are natural or anthropogenic emissions. In this way mother Earth could never compensate for seasonal variations, volcanic activities or El Niños; all contributions are summed up ad infinitum. When you trust such model, you can do, I have strongest concerns.

Sources of CO₂, or better a changing natural influx can have different origin. So, the CO₂ partial pressure in sea water changes exponentially with temperature (Takahashi et al., 2009), and 1 °C increase already contributes to an atmospheric concentration incline comparable or larger than all actual human activities. Also new estimates of dark respiration suggest that under global warming conditions whole-plant respiration could be around 30% higher than existing estimates (Huntingford et al., 2017). Further contributions may result from defrosting permafrost and volcanic or tectonic activities (up to now they cannot be quantified very accurately).

But with increasing water temperature not only outgassing of CO₂ rises, at the same time the uptake decreases, and also the vegetation is affected, when with reduced precipitation a reduced plant-growth is observed.

Altogether this means: when over the last 270 years the native emission rate has changed by 10-15% and the residence time increased from 3.5 to 4 years, the missing 85% of the increase since 1750 can well be explained.

Nobody must be afraid that 660 PgC of anthropogenic emissions over the industrial era would already surpass the storage capacity of the oceans and continents, it is less than 1% of the estimated capacity.

Reply to Gavin Cawley

This will be my last post on this blog, which is not the place to exchange scientific arguments, particularly not a blog which starts with an opening statement, how a "deeply flawed [paper](#)" could pass peer review. I would have preferred an exchange with Comment and Reply without censorship, but after my experience and the commentary of the editorial board members of GPC, this journal is surely also not the right address for such an exchange.

Only in short :

I don't know what Dr. Cawley understands as a straw-man in this context, I can only refer to AR5, Chapter 6, where negligible atmospheric concentration changes before 1750 are reported, the natural fluxes over the industrial era are considered to be the same as 1750, and any concentration changes in the atmosphere or reservoirs are almost exclusively traced back to anthropogenic emissions (see, e.g., AR5-Chapt.6-Fig.6.1). Even in coupled climate-carbon cycle models the input comes only in the form of anthropogenic CO₂ emissions, which can increase the CO₂ and as response to this the natural carbon cycle exchanges CO₂ between the atmosphere and land and ocean components.

I agree with Dr. Cawley that nature is a net sink, as long as anthropogenic activities are not zero. I had never doubts on this assertion. But I can't follow the conclusion that in addition to human emissions increasing natural emissions cannot be the reason for an observed growing CO₂ concentration.

The uptake gets even maximum, when $C' = 0$. However, steady state can only be achieved with a balance equation, where the absorption rate is proportional to the concentration C , as in my case, never with an absorption scaling with the anthropogenic emission rate as assumed in a model with constant airborne fraction (AF) or also with a time-varying AF as in the Bern-Model.

The equilibrium level C_{eq} is determined by the total influx (sum of anthropogenic and natural emissions) times the residence time (my paper, eq.(14)), and of course, can and will this level increase when native emissions are increasing, e.g., due to temperature effects or volcanic activities. Solution of the conservation law with a time-dependent increasing native flux is plotted under Modis Operandi (Reply, Fig.3) and shows full agreement with the Mauna Loa observations.

Reply to comment from 2 May

What a joke! The Cawley model "needs no such adjustments to the data", instead it needs an additional adjustment parameter, the 'adjustment time', which has no physical background but is required to integrate the anthropogenic flux which otherwise is too small to contribute to a noticeable concentration change.

Cawley-article, p. 5505, 2nd column

First the growth rate of the concentration or water level is made independent of RT, only anthropogenic emissions are discussed and F_{ss} (steady state flux, pre-industrial) introduced.