

## Retraction Notice

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 yes, date: yyyy-mm-dd no**Comment:**

The paper does not meet the standards of “Atmospheric and Climate Sciences”.

This article has been retracted to straighten the academic record. In making this decision the Editorial Board follows [COPE's Retraction Guidelines](#). Aim is to promote the circulation of scientific research by offering an ideal research publication platform with due consideration of internationally accepted standards on publication ethics. The Editorial Board would like to extend its sincere apologies for any inconvenience this retraction may have caused.

Editor guiding this retraction: Prof. Shaocai Yu  
(EiC of ACS)

# Climate Change: Is Carbon Dioxide the Culprit?

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## Abstract

Fossil fuels provide more than 85 per cent of world energy. Climate scientists claim that a serious risk of disrupting the climate system could arise if the atmospheric concentration of greenhouse gases (e.g. carbon dioxide), emitted in the process of extracting energy from fossil fuels, was to double its preindustrial level. Because this scenario portends calamity for humanity, the race is to find alternative energy sources. In this paper, we give a formal proof that increasing greenhouse gas concentrations leads to global cooling.

## Keywords

Temperature, Ensemble, Radiation, Atmosphere, Resonance

## 1. Introduction

It is no longer in doubt that global warming is real. There was a great deal of equivocation about global warming for most of the 19C, but it was unambiguously detected around the end of the 20C [1]. Climate scientists and social scientists claim that increase in greenhouse gas (carbon dioxide, ozone, nitrogen oxides, methane, water vapour, etc.) concentration in the atmosphere causes global warming [2]. They reason that radiation from the sun is able to penetrate the atmosphere and warm the earth. On incidence at the surface of the earth, a fraction of the radiation is re-radiated as infrared radiation back into the atmosphere where it is absorbed by the greenhouse gases especially carbon dioxide. The net effect is that the average temperature of the earth and atmosphere increases with increasing greenhouse gas concentrations. This conclusion must be rejected because it is asymmetric and it fails to consider the corresponding effect of greenhouse gas concentration on the exciter of infrared radiation (*i.e.* solar radiation).

The Intergovernmental Panel on Climate Change (IPCC) adopted this purely make-believe scenario as the base theory of global warming, and then focused their attention

and research on “vulnerabilities”—the nature of damage any given region of the earth might suffer from any of the impacts of climate change. It’s concluded that Africa is “the continent most vulnerable to the impacts of the projected changes”, and that Europe and North America “might even benefit from a modest warming and rise in the level of carbon dioxide concentration” [3]. IPCC has therefore prescribed stringent protocols which humanity must observe in order to curb the impacts. It is rather remarkable that the developed world would work against a matter that is supposed to be beneficial to them! Strangely they even offer a carrot, e.g. carbon trade, as a reward for strict adherence to these protocols. It must, however, be noted that reducing or stopping the use of fossil fuels has implications on national development.

It is necessary to ask how the originators of the climate change scenario arrived at the theory. The history of any scientific theory tells us that it is the end product of a set of questions and answers, usually dogged by false leads, dead ends, controversies, etc. The history of the theory of global warming is palpably different because none of the above applies to it—it is a mere make-believe as has already been noted. In this paper, we discuss the effect of greenhouse gas concentration on global climate.

## 2. Preliminaries

In this section we introduce some technical terms which will feature in the proof.

A system  $A$  is called a heat bath if it is so large that the gain or loss of any finite amount of heat  $Q$ , on interaction with a smaller system  $A'$ , does not change its temperature ( $T$ ). It is a bounded system which is characterized by its temperature, heat source, material medium, and inhabitants—it is called Terrestrial Heat Bath (THB) if its heat source is located in the earth’s environment and Celestial Heat Bath (CHB) otherwise (e.g. if the heat source is the sun).

An example of a terrestrial heat bath is a swimming pool. Its heat source is household power supply; material medium is water, and its temperature is fixed and is regulated by a thermostat. There are no inhabitants in the swimming pool. A terrestrial heat bath is an example of a thermodynamic system in equilibrium at a temperature  $T$ .

### 2.1. The Earth’s Environment

A celestial heat bath is an example of a non-equilibrium thermodynamic system, a subject which is not well understood in conventional physics theories. To define it we need to understand the earth’s environment. We therefore give a brief description of the earth’s environment—a necessary and important digression from the main subject.

We shall call the troposphere of the conventional atmosphere, with thickness varying from about 7 km at the poles to about 28 km at the equator as measured from the surface of the earth, the non-aquatic world. Its material medium is air (nitrogen, oxygen, argon, carbon dioxide, neon, helium, krypton, xenon, water vapour, sulphur compounds, hydrocarbons, dust particles, etc.), heat source is the sun, and inhabitants are non-aquatic objects (human beings, animals, plants, etc.). The temperature is variable (stationary) due to the rotation of the earth about its axis and about the sun. Thus, the

non-aquatic world is an example of celestial heat bath—it is bounded below by the surface of the earth (land and water) and above by the “atmosphere” which we shall define hereunder.

It follows from the above considerations and its definition that another example of celestial heat bath is the aquatic world: its material medium is water, heat source the sun, and its inhabitants are fishes, aquatic animals, plants, etc. Like the non-aquatic world its temperature is variable. It is bounded below by the surface of the earth and above by the non-aquatic world. Examples include lakes, oceans, seas, rivers, etc.

We can now give a thermodynamic definition of our world. The word “collection” is used to describe a number ( $N$ ) of similar objects distributed in space-time. If  $N$  is large (in fact infinite) this word, or similar ones, is no longer appropriate, we use instead “ensemble”. A collection of thermodynamic systems, in our case heat baths, is called Gibbs ensemble. Our world is the union of non-aquatic CHB and aquatic CHB, or simply an ensemble of celestial heat baths, consisting of an infinite number of sub-ensembles. The distinctive feature of each sub-ensemble is the climate. The interfaces between aquatic and non-aquatic sub-ensembles and between non-aquatic sub-ensemble and solid earth are interfaces of intense non-equilibrium thermodynamic activities. We are, however, not interested in the complexities of these activities except to note that the former is the source of water vapour and the later is the source of infrared radiation.

## 2.2. The “Atmosphere”

By the “atmosphere” we mean the buffer region between our world and the sun that stretches from the upper boundary of our world to about 25,000 km. The region is divided into three layers, namely, the stratosphere (or ozone layer) which goes up to 50 km, ionosphere which extends up to 1000 km. Here the gases that exist in our world exist as ions; and exosphere (Van Allen Belts) which extends up to 25,000 km. The lower belts of the exosphere (1000 - 5000 km) contain electrons and protons, while the upper belts (15,000 - 25,000 km) contain mainly electrons. These particles are captured by the earth’s magnetic field, and because of their acceleration they are sources of intense electromagnetic radiation. The electrons are liberated from the ionization of the gases in the ionosphere, while the protons come mainly from the sun as we shall see.

## 3. The Theory

It is enough to consider a single sub-ensemble, a non aquatic CHB if the lower boundary is the surface of the solid earth or a union of non-aquatic CHB and aquatic CHB if the lower boundary is water. We give here only a qualitative discussion.

Radiation (photons and ultra-high energy nuclear particles) from the sun arrives the “atmosphere”. The charged ultra-high energy particles, e.g. protons, are trapped in the earth’s magnetic field within which they follow roughly helical paths. The neutral ultra-high energy nuclear particles, e.g. neutrons, are essentially free and can penetrate the “atmosphere” to reach our world and earth where they cause natural disasters (earthquake, hurricane, etc.) [1].

We return now to the main subject after the important digression in the last paragraph to give a brief discussion on the role of ultra-high energy neutral nuclear particles in our world. The short wavelength components of the electromagnetic radiation incident in the “atmosphere” are eliminated via scattering by electrons, protons, and ions in the ionosphere and exosphere, leaving only the visible light and ultraviolet components of the radiation. The visible light passes through the stratosphere to the sub-ensemble arriving there with certain intensity ( $I_v$ ), while the ultraviolet component is further filtered via absorption by the ozone in the stratosphere leaving only the near ultraviolet radiation to reach the sub-ensemble, arriving there with a certain intensity ( $I_u$ ). The intensity of the radiation is a critical quantity. It depends on the attenuation parameter  $\alpha$ ;  $\alpha$  itself depends on the concentration of the particles (electrons, protons, ions, gases) in the “atmosphere”. On account of the scattering and absorption of radiation,  $\alpha$  increases with increasing concentration resulting in weaker intensity.

Light and ultraviolet radiation in the sub-ensemble warms the sub-ensemble and the surface of the earth. Infrared radiation is emitted from the surface of the earth by the incident radiation which is absorbed by carbon dioxide, water vapour, etc. in the sub-ensemble. The combination of the radiation from the sun (light and near ultraviolet) and the infrared radiation helps to establish the average temperature of the sub-ensemble. The average temperature is not fixed; it is variable (stationary) due to the motion of the earth (rotation about its axis, and about the sun).

Let  $c$  and  $c'$  denote the concentration and threshold concentration of greenhouse gases respectively in the sub-ensemble and “atmosphere”. By threshold concentration we mean the concentration that gives normal climate. Here  $\alpha = \alpha'$ ,  $I_v = I'_v$ ,  $I_u = I'_u$ . The climate in the sub-ensemble, and hence the weather (temperature, rainfall, humanity, wind, etc.) would be normal.

Let  $c$  be arbitrary and assume that it is increasing from  $c'$ :  $c \rightarrow \infty$ ,  $\alpha \rightarrow \infty$ ,  $I_v \rightarrow 0$ ,  $I_u \rightarrow 0$ , since increase in concentration will lead to increased number of collisions in the ionosphere and exosphere. Thus, as  $c$  increases the intensities  $I_v$  and  $I_u$  decrease leading to the decrease in the intensity of the infrared radiation and hence decrease in the average temperature of the sub-ensemble, and the sub-ensemble cools! A cut-off concentration,  $c_\infty$  if achieved may lead to the freezing of the sub-ensemble because its heat content will be absorbed by the earth which acts as a large heat sink.

Finally, let  $c$  be arbitrary and assume that it is decreasing from  $c'$ :  $c \rightarrow 0$ ,  $\alpha \rightarrow 1$ ,  $I_v \rightarrow \infty$ , and  $I_u \rightarrow \infty$ . This scenario leads to increased intensity of infrared radiation and hence increased average temperature of the sub-ensemble, which then warms. This conclusion could have been inferred from the fact that removing the conventional atmosphere would lead to thermal death of the sub-ensemble!

#### 4. Conclusions

The sub-ensemble we selected for this analysis is not unique. Hence the foregoing applies to all the sub-ensembles and hence to our world in general. Thus, increasing greenhouse gas concentration in the atmosphere leads to global cooling.

We thus reach the conclusion that global warming is not caused by carbon dioxide or greenhouse gases in general! An important question is this: what then is responsible for global warming? We have given a formal answer to this question [4]. We give here; however, the synopses of that rather abstract paper.

Under ordinary conditions, the sun is our world's sole energy source. In other words, the stationary temperatures of each sub-ensemble are independent of the activities occurring in the sub-ensemble. By ordinary conditions, we mean the energy range of the activity.

It could happen, as has been the case since the 1980s that the energy of the activity is in the ultra-high energy range as occurs in modern particle accelerators. Particle accelerators were introduced in physics research in the 1930s, and higher and higher energy accelerators have been in operation in our world ever since. Apart from physics research, these machines find applications in medicine and industry.

The stupendous work of Abdus Salam, Sheldon Glashow, and Steven Weinberg in the 1960s predicted the existence of a "fundamental" particle called Higgs boson. A laboratory search for this particle required accelerators operating at the terra-energy range. Machines operating at this energy range have been in operation in some advanced countries since the 1980s. Recently two groups of scientists at CERN, Switzerland announced that they discovered the Higgs particle, which was not seen in any other laboratory in the world. As far as I know, this is the only case in the history of science where discovery in a single laboratory is taken as a confirmation of a prediction! It took about 40 years at a cost of about 10 billion dollars of tax payers' money. The by-product of this search is a calamity called global warming! Why?

Terra-energy is the energy range of the sun, and any machine operating in this energy range acts as a secondary energy source for our world. Thus, since the 1980s, these machines have served as secondary energy source for our world—not surprising global warming was not observed until about the end of the 1990s [1]. To stem global warming, the United Nations should decree that all such machines should be banned with immediate effect as they are not of any use to humanity under ordinary conditions.

The absence of an enhanced (amplified) intensity of any component of solar radiation reaching our world implies that resonance scattering does not occur in the "atmosphere". Two important consequences are derivable from this. First, the trapped charged particles in the "atmosphere" radiate at wavelengths much longer than the wavelength of light. Second, the sun does not emit infrared radiation or any radiation with wavelength longer than the wavelength of light. The latter consequence has astrophysical and geophysical implications. The absence of infrared radiation in the radiation emitted by the sun implies that atoms, molecules, and fermion materials do not exist in the sun. One then questions the integrity of Bethe's theories of fusion and solar neutrinos [5].

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