

Comprehensive Refutation of the Radiative Forcing Greenhouse Hypothesis

Douglas Cotton, B.Sc., B.A., Dip. Bus. Admin

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ABSTRACT

The author's 2013 paper "Planetary Core and Surface Temperatures" presented what amounts to a totally new paradigm in climate change science. The hypothesis can be used to explain all temperatures and the main heat transfer mechanism in all planets. Only one hypothesis can be the correct one, and the issue as to which it is can be resolved using standard laws of physics. The study of heat transfer mechanisms lies wholly within the discipline of physics, and yet it appears that few, if any, physicists have been asked to review the physics that is being presented by climatologists, whose papers are referred to by the International Panel on Climate Change (IPCC) and many scientific authorities, including NASA. It appears that most physicists have avoided the debate, although some are now looking into it and finding false physics being used.

In physics it has been explained in the 19th century that force fields like gravity will establish a situation in which temperatures do not level out as they would in a horizontal plane. Instead a stable non-zero temperature gradient is formed and this is a state of equilibrium. Because it is such a state, it was shown in the above 2013 paper that we cannot assume that heat transfers by non-radiative molecular collision processes need always to be from a warmer object to a cooler one. Imagine what must happen when the Sun rises and starts to warm the tops of clouds, thus disturbing the state of equilibrium that was closely the case the night before. There is now more energy but the temperature gradient will tend to restore its previous value. This means that the whole thermal profile (graph) will rise to a higher (but parallel) position with downward heat transfer being necessary towards warmer regions. Climatologists have completely overlooked this process and wrongly assumed the required energy came from atmospheric radiation that caused a heat transfer into the warmer surface.

Because of this assumption, there is now an implication in energy diagrams, such as those from NASA, that the Earth's surface temperature is determined primarily by the assumed combined effect of solar radiation and about twice as much radiation from the colder atmosphere. This assumption is shown to be contrary to standard physics, and empirical evidence is presented that proves their assumption to be incorrect.

1. Overview and background

The reader will be well aware that it is claimed that humans are causing increased levels of carbon dioxide in the atmosphere and that so-called greenhouse gases (including water vapor) are assumed to raising the average (or "mean") surface temperature of Earth. School children are being taught that carbon dioxide forms a "blanket" that keeps the surface warmer, despite there being only about one molecule of carbon dioxide for every 2,500 other air molecules. This blanket is, however, somewhat colder up in the atmosphere than the warmer surface below, as you would know if you've been high up on a mountain. In fact, in the lower layer of the atmosphere it gets colder by nearly 7C° for each extra 1 km of altitude.

The above concept of a cold blanket raising the warmer surface temperature is not, however, the official explanation given by the International Panel on Climate Change (IPCC) or NASA. Instead, they say that the extra warming is due to so-called "back radiation" from greenhouse gases that are, mostly, water vapor (about 1% to 4%) and far less prevalent carbon dioxide, methane, nitrous oxide and some others. Some say that this radiation slows the cooling of the surface, but in fact NASA energy diagrams clearly imply that the observed temperature of the surface can be explained by adding to solar radiation about twice as much back radiation.

As explained by the author in his 2012 paper "Radiated Energy and the Second Law of Thermodynamics" the back radiation undergoes resonant (or "pseudo") scattering when it strikes a warmer surface. In fact, as is well-known, this radiation from the colder atmosphere does not penetrate water surfaces by more than a few nanometers. Furthermore, such radiation can only slow that portion of surface cooling that is itself by way of radiation.

As will be seen in this paper, the Sun's radiation which gets through the atmosphere and reaches the surface is simply far too little to allow us to understand from laws of physics why the surface temperature is far hotter than that radiation could make it. Climatologists assumed it must be the back-radiation that is helping the Sun. "What else?" they probably thought. The answer to that question lies not in back-radiation, but in what was explained by the brilliant 19th century physicist, Josef Loschmidt, namely that gravity forms the observed temperature gradient seen in every planetary troposphere, that being the lowest layer of the atmosphere.

Ironically, it is the radiating properties of these "greenhouse gases" that actually have a temperature-leveling effect which works against the gravitationally-induced temperature gradient, reducing it in magnitude, as is well-known for water vapor. This reduction in the temperature gradient causes the whole plot of temperature against altitude to rotate about a central region in the troposphere so as to maintain radiative balance with the incoming solar radiation. Hence that graph rotates downwards at the surface end, causing surface cooling by these greenhouse gases. There is a study in the Appendix of the author's 2013 paper (and his book "Why It's Not Carbon Dioxide After All") which presents real-world data supporting the conclusion that water vapor cools the surface, and that puts a real spanner in the works for the Radiative Forcing Greenhouse Hypothesis.

2. The Sun's radiation impinging on the surface does not explain the temperature.

