

# STOP CLIMATE FEAR MONGERING:

*CO<sub>2</sub> Increases Can Cause Only Minimal Warming*



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# STOP CLIMATE FEAR MONGERING:

## *CO<sub>2</sub> Increases Can Cause Only Minimal Warming*

by William M. Gray | December 23, 2014

### ABSTRACT

The massively funded international global warming movement has grossly exaggerated the threat from CO<sub>2</sub> gas increases. This warming scare has been driven by a cabal of international politicians and environmentalist groups using erroneous climate model warming predictions to brainwash an uninformed global public. Their purpose was to scare the public into accepting global government and restrictions on their freedoms and lifestyles to prevent a made-up looming climate catastrophe. Truth of their CO<sub>2</sub> warming assertions was of little importance. What mattered was the degree to which the public could be indoctrinated to believe the threat. The many large global warming projections have not and will not be realized in the coming years. The science behind these CO<sub>2</sub> induced warming projections is very badly flawed and needs to be exposed to the public. We will see only negligible amounts of CO<sub>2</sub> induced global warming in the coming decades. The future temperature changes which do occur will be natural and primarily a result of the changes in the globe's deep ocean circulation patterns of which ocean salinity variations is the primary driver. We can and should do nothing about natural climate change but adjust to it.

Economic progress dictates that the US and the world continue with and expands their use of fossil-fuels. Any significant shift to the much more costly wind and solar energy sources should not go forward. Such a shift would greatly lower the US and the world's living standards and do nothing to benefit the globe's climate. This global warming charade cannot long continue. Time and truth are on the side of the warming skeptics.

### CURRENT CONDITIONS

Increasing amounts of CO<sub>2</sub> gas in the atmosphere over the last 18 years have not caused any increase in mean global surface temperatures. Despite voluminous media and scientific claims to the contrary, the global temperature, global sea ice, severe weather, floods, droughts, tropical cyclones, tornadoes, etc. are not showing any of the changes predicted by the warming alarmists and the many numerical modeling simulations on which most of these warming



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claims have been scientifically based. I am sure the coming years of observations will add more verification for the discrediting of this CO<sub>2</sub> driven catastrophic warming hypothesis.

I strongly recommend the reader consult the internet blog [Real Science](#) by Steve Goddard for much more documentation on the ever increasing failure of the CO<sub>2</sub> global warming projections. Goddard also gives numerous examples of how our and other government climate-weather agencies have been artificially reducing older surface temperature measurements so as to give the appearance of larger upward surface temperature trends than have really occurred. This apparent data tampering goes against all scientific methodology and needs to be exposed and corrected by an outside independent investigative group.

The general public, without the technical background to judge the scientific reliability of these many and continuous alarmist warming pronouncements have become brainwashed. An unhealthy alliance has developed between government and climate-weather scientists. The apparent broad level of scientific backing for the CO<sub>2</sub> warming hypothesis has been obtained through massive governmental research grant awards to those scientists who were willing to support (or not criticize) such dubious politically driven global warming claims.

We all want to trust our government and believe that the media is giving us objective news. But with our government's and the media's continuous and alarmist statements on increasing CO<sub>2</sub> ability to cause dangerous future global warming we all need to become skeptical. The public has been deceived by not being able to hear the other side of the global warming argument. The many scientific arguments against the human-induced global warming hypothesis have purposely not been covered by the media or discussed by our government. When such negative warming arguments do occasionally come up, they are harshly criticized by environmentalists, celebrities, and governmental officials who know next to nothing about how the global climate system functions. An open and honest scientific dialog on the global warming issue has yet to take place. The statement that the scientific argument for large CO<sub>2</sub> induced global warming has already been settled is a total fabrication.

  
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### **CRUX OF THE FLAWED SCIENCE**

*(Water-vapor feedback and surface evaporation cooling)*

There are many flaws in the global climate models. But the largest flaw is a result of the climate model's inability to realistically deal with the small horizontal scale (and model unresolvable) changes brought about by the globe's thousands of individual deep cumulonimbus (Cb) cloud elements (Figure 1). An increase in the totality of these deep Cb convective units adds drying to the upper troposphere (Figure 2). This is in contrast to the assumptions implicit in the General Climate Model (GCM) simulations which increase upper tropospheric water-vapor as a result of enhanced rainfall and Cb convection associated with rising levels of CO<sub>2</sub>.

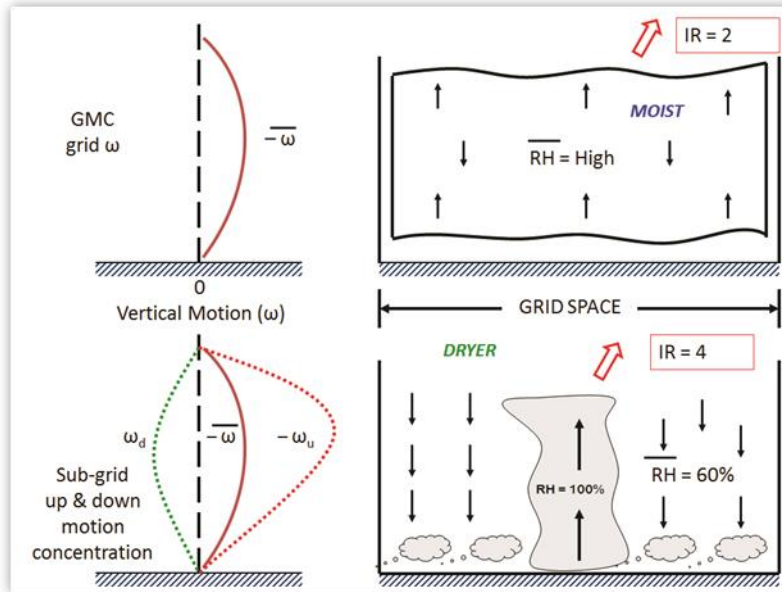


Figure 1. Illustration of how the large grids of the GCM models cannot resolve the individual convective cloud elements and all the local up-and-down vertical motion between the grid units. This sub-grid scale convection can result in enhanced IR loss to space and lesser amounts of warming than the coarser GCMs would allow for.

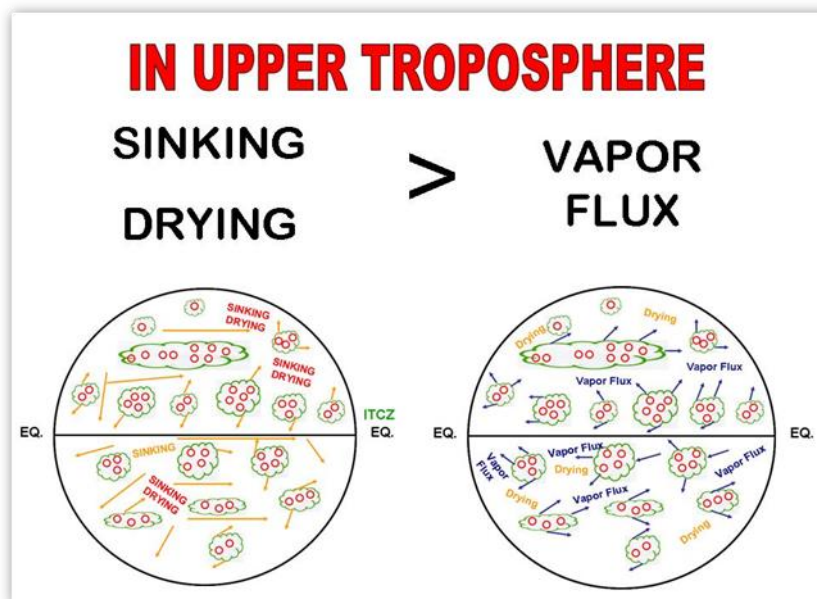


Figure 2. Idealized portrayal of global deep cumulus rain and cloud areas. The left diagram illustrates the upper-level sinking mass coming from the raining deep Cb cloud. This sinking acts to dry and warm the upper troposphere. The right diagram shows water-vapor and cloud particles being advected from the same high rain areas. Observations indicate that the sinking-drying in the upper troposphere is greater than the water-vapor and cloud water replacement by moist air outward advection and evaporation. Enhanced Cb convection leads to upper-level drying and extra IR loss to space.



The model simulations have followed the unrealistic physical ideas emanating from the National Academy of Science (NAS), 1979 (or Charney Report). This report speculated that as the troposphere warms from CO<sub>2</sub> increases that this warming would be accompanied (follow the Clausius-Clapeyron relationship between temperature and moisture) by a moisture increase such that the relative humidity (RH) of the air would remain near constant as the temperature increased. Implicit in this NAS assumption of CO<sub>2</sub> induced warming was the necessity that this increase of moisture would add additional blockage of infrared (IR) radiation to space beyond what the CO<sub>2</sub> gas did by itself. The net IR blockage to space from increasing CO<sub>2</sub> was thus assumed to occur not only from the CO<sub>2</sub> gas itself but also from the extra water-vapor gain needed to keep the RH near constant as the temperature rose. This additional water-vapor gain was shown by the models to have about twice as large an influence on reducing IR blockage to space as the CO<sub>2</sub> increase by itself. Thus, any CO<sub>2</sub> increase of one unit of IR blockage to space would simultaneously bring along with it an additional two units of water-vapor blockage of IR loss to space. This additional moisture related blockage of IR loss to space (associated with CO<sub>2</sub> induced warming) has been designated as 'positive water-vapor feedback'. All the CO<sub>2</sub> climate models have strong amounts of positive water-favor feedback.

It is this large and direct tie of water-vapor increase with CO<sub>2</sub> induced temperature rise which is the primary physical flaw in all of the GCM CO<sub>2</sub> doubling model simulations. This is the reason why all the GCMs have so strongly over-predicted the amount of global warming which will occur with a doubling of atmospheric CO<sub>2</sub>.

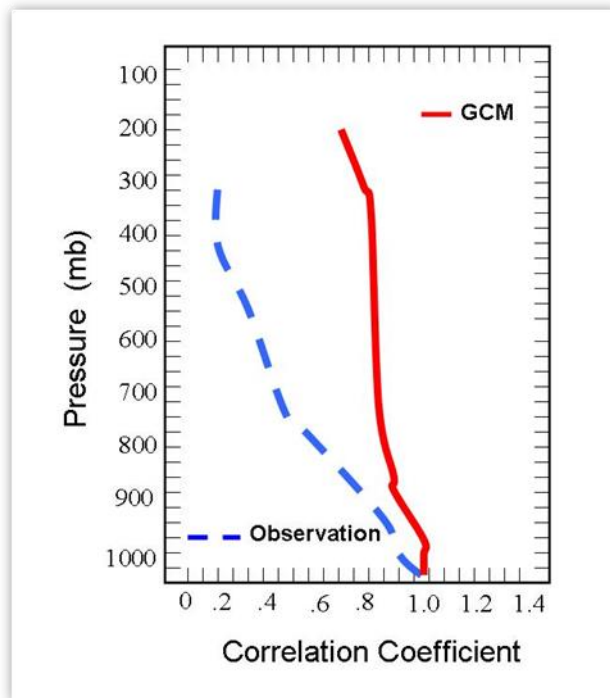
Observations show that the warming or cooling of the upper troposphere does not occur with RH remaining close to constant. Temperature and RH tend to change oppositely from each other and not in unison as the models assume. My project's study of cumulus convection and tropical cyclone formation over many decades has taught me that the NAS 1979 (Charney) Report assessment that rising CO<sub>2</sub> amounts will occur with water-vapor increase is not a realistic assessment of how these parameters change in the upper troposphere.

The GCM CO<sub>2</sub> simulations are also constructed so as to have their moisture simulations arranged such that water-vapor changes occur uniformly at both upper and lower tropospheric levels. By contrast, the observations of moisture change at upper and lower tropospheric levels show them to be little related to each other (Figure 3).



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*Figure 3. Correlation of lower and upper troposphere moisture changes. The GCM models simultaneously simulate the same moisture changes at both the lower and upper tropospheric levels – high correlation. The observations however, show very little correlation between upper and lower tropospheric moisture changes.*

Our observation analysis finds that increases in cumulonimbus (Cb) cloud intensity and frequency brings about a decrease in upper tropospheric water-vapor, not an upper tropospheric moistening as the model simulations show.

The deeper and/or the more intense Cb clouds become the higher is their rainfall efficiency. Cb clouds rain out most of their moisture as they overshoot from the top of their positive buoyancy layer near 300 mb (~ 10 km) and penetrate higher into the stabilizing upper troposphere where they became weaker and terminate their upward motion. The Cbs weakening upward vertical motion at these high levels leave little upper-level moisture as they die. Their updrafts deposit their saturated but miniscule moisture content air and liquid cirrus clouds high in the troposphere. These are the heights where the vertical gradients of saturation air is, percentage-wise, very large. Any subsidence of this cold upper-level saturated air parcels to lower and warmer levels causes an especially large reduction of the sinking air's RH.



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For instance, a saturated air parcel at 200 mb (12 km height) and a temperature of -53°C will contain little moisture even though it is saturated. If this parcel then sinks with no mixing to 300 mb (~10 km height) and takes on the temperature of the lower-level air it will have its RH reduced from 100 percent to only 12 percent (Figure 4). Such Cb induced upper-level air parcel subsidence to lower levels induces an upper-level drying and with it an increased infrared (IR) radiation loss to space. The contrast of these two processes is seen in Figure 5. The crucial flaw of the models is that they have not made a proper up-and-down mass balance of the upper-troposphere's vertical motion that would have accounted for the high rainfall efficiency of the Cb air which penetrates above 300 mb and the very dry return flow subsidence.

<b>Sinking 100 mb Pressure Levels</b>	<b>RH Percent Decrease</b>	<b>Resulting RH at base of sinking</b>
125 mb to 225 mb	93	07
150 mb to 250 mb	90	10
175 mb to 275 mb	88	12
200 mb to 300 mb	86	14
225 mb to 325 mb	83	17
250 mb to 350 mb	77	23
275 mb to 375 mb	69	31
300 mb to 400 mb	63	37
325 mb to 425 mb	59	41
350 mb to 450 mb	56	44

Figure 4. Illustration of extreme upper troposphere vertical gradient of saturated air in the tropics. This table shows the amount of relative humidity (RH) decrease by saturated air sinking 100 mb between various pressure levels as it assumes the temperature of the lower-level air. The resulting lower-level humidity is given on the right. For instance, saturated air sinking from 200 mb to 300 mb without mixing and maintaining its moisture but taking on the temperature of the air at 300 mb would have a RH of only 14 percent (green bracket).

  
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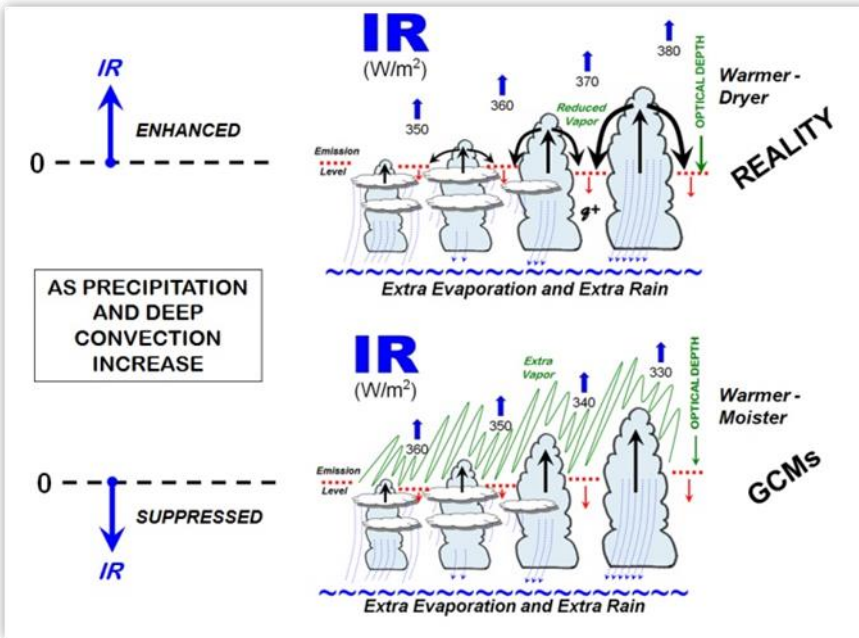


Figure 5. Two contrasting views of the effects of deep cumulus convection. The top diagram emphasizes the extra return flow mass subsidence drying associated with the deep convection. Extra IR energy flux is emitted to space. By contrast, the bottom diagram shows how the typical global climate models (GCMs) interpret the mass outflow from the deep

cumulus as adding water-vapor to the upper troposphere and blocking more IR loss to space. The bottom diagram is not realistic as regards to the way Cb convection functions in the atmosphere.

**Example:** To balance the influence of a doubling of CO<sub>2</sub> by radiation alone it would be required that the temperature of the globe be warmed by 1°C. The models then assume that this CO<sub>2</sub> induced warming of 1°C will (following the Charney Report assumptions) cause a moisture increase that will further reduce IR loss to space, such that there will have to be an additional 2°C upper-level warming beyond the needed 1°C warming from the CO<sub>2</sub> by itself. The combination of these two processes is assumed to bring about an upper-level 3°C global warming over the whole tropics (30°N-30°S). Of this 3°C warming 2°C would be designated as positive water-vapor feedback warming. Such an expected strong and positive temperature increase and positive water-vapor feedback of a doubling of CO<sub>2</sub> is quite unrealistic.

Our project's many years of analysis of the International Satellite Cloud Climatology Project (ISCCP) observations of IR loss to space in association with enhanced Cb convection and rainfall do not show a decreased IR blockage to space (as the models have indicated will occur) but rather an enhancement of IR loss to space. Our data analysis is, by contrast with the models, representation of a negative water-vapor feedback – the larger the rainfall rate, the lower the upper tropospheric water-vapor content and the greater the IR loss to space (Figure 6).



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TROPICS (30°N-30°S; 0-360°)							
Monthly (High – Low) Precipitation Values							
<b>Δ Rain (3.9%)</b>							
<b>(10 High) - (10 Low)</b>	0	1	2	3	4	5	6
Avg. of each of 12 months	0-360	0-60E	60-120E	120E-180	180-120W	120-60W	60W-0
300 mb Temp. (°C)	0.02	0.13	0.27	0.23	(0.34)	(0.21)	0.02
Specific Humidity (q)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Relative Humidity (RH)	(1.66)	(1.34)	(2.33)	(1.73)	(0.41)	(1.20)	(2.69)
<b>Δ Rain (2.0%)</b>							
<b>(95-04) - (84-94)</b>	0	1	2	3	4	5	6
Avg. of each of 12 months	0-360	0-60E	60-120E	120E-180	180-120W	120-60W	60W-0
300 mb Temp. (°C)	0.16	0.26	0.24	0.11	(0.05)	0.13	0.25
Specific Humidity (q)	(0.03)	(0.02)	(0.03)	(0.05)	(0.04)	(0.02)	(0.04)
Relative Humidity (RH)	(3.92)	(2.84)	(3.53)	(4.84)	(3.83)	(3.24)	(5.23)

Figure 6. Changes in 300 mb temperature, specific humidity ( $q$  – gm/kg), and relative humidity (RH) by area between two reanalysis rainfall difference data sets for the tropics. Rain differences average 3.9 percent for the 10 highest minus 10 lowest monthly differences and 1.9 percent for the (95-04)-(84-94) data set differences. Negative values are in red. All 300 mb moisture parameters showed water-vapor and RH decreases with enhanced rainfall.

**Real global warming to be expected:** Without upper-troposphere water-vapor change and without enhanced surface evaporation cooling associated with extra rainfall, the pure radiation response to a doubling of CO<sub>2</sub> would indicate we should expect about a 1.0°C global warming. But even with zero assumed water-vapor change this 1°C warming is two to three times larger than what will likely take place. This is because about 60 percent of the 3.7 Wm<sup>-2</sup> IR blocking to space from a doubling of CO<sub>2</sub> will be balanced by an enhancement of surface evaporation and an increase of the global hydrologic cycle by about 2½ percent. A zero water-vapor feedback will thus be expected to only bring about a 0.4°C global temperature rise from CO<sub>2</sub> doubling.

We show that there is a very modest degree of negative water-vapor feedback of 0.1 to 0.2°C. With this occurring we should expect that the real amount of global warming that will occur from a doubling of CO<sub>2</sub> would be only about 0.2-0.3°C or about 5-10 percent the amount projected by the many global models of 2-4°C. The AGW threat and especially the catastrophic AGW (or CAGW) threat cannot be a realistic assertion of how the planet's climate system functions.



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## CONTINUE ECONOMIC GROWTH

If this evaluation is correct, then the people of the globe should not have to worry about rising levels of CO<sub>2</sub> at this time. Enhanced fossil-fuel utilization and rising levels of economic gain should continue. The world needs to greatly reduce its concern for the trumped up CO<sub>2</sub> global warming threat. We need to concentrate on the many more legitimate and serious world problems which are before us.

We should all be grateful for the tremendous advancements in living standards, health, and overall well-being which the utilization of fossil-fuel energy has made possible. Fossil-fuel energy has been one of humanity's greatest blessings.

Higher levels of fossil-fuel usage will bring about yet greater economic and society benefits. Increased CO<sub>2</sub> will also bring an enhancement of vegetation growth, a small global rainfall increase, and a very slight global temperature rise – all positive changes for humankind.

Many people who accept that humans are degrading the environment are confusing local environmental problems with CO<sub>2</sub> induced global warming. The two are very different. We must all work to reduce or eliminate local pollution and health hazards but disregard the false harangues of saving the planet from the trumped-up imaginary CO<sub>2</sub> induced warming.

The wisest course of action for our country and the world at this time should be to have the foresight and courage to 'do nothing' regarding the increasing amounts of CO<sub>2</sub> and other greenhouse gases which are being emitted into the atmosphere. The coming generations will be in a better position to decide whether any human response to the rising levels of CO<sub>2</sub> gases might be justified.



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## AUTHOR'S BACKGROUND

The author holds an MS (meteorology) and Ph.D. (geophysical sciences) from the University of Chicago. He has been a weather-climate forecaster, researcher, and university graduate school professor for 60 years. He has supervised 70 MS and Ph.D. students. He originated and has been involved with Atlantic basin seasonal hurricane forecasting for the last 31 years.

Gray has never received any research funding from any fossil-fuel source. His position on the global warming issue has led in recent decades to loss of all federal research support he had previously received. His research on this topic continues only through his own funding. Gray and his Colorado State University research project colleagues have published many papers and issued many project reports over many years on cumulus convection and atmospheric moist processes. It is on this topic for which the climate models lack realism and the primary reason for their grossly unrealistic large warming projections. These papers and reports can be found at (<http://tropical.atmos.colostate.edu/>).

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*Cover photo of a rare patch of wispy white clouds over the European Southern Observatory (ESO) taken by astronomer Alan Fitzsimmons as posted to [WikiMedia Commons](#) under the [Creative Commons Attribution 4.0 International](#) license.*

