Relative Humidity and Optical Depth

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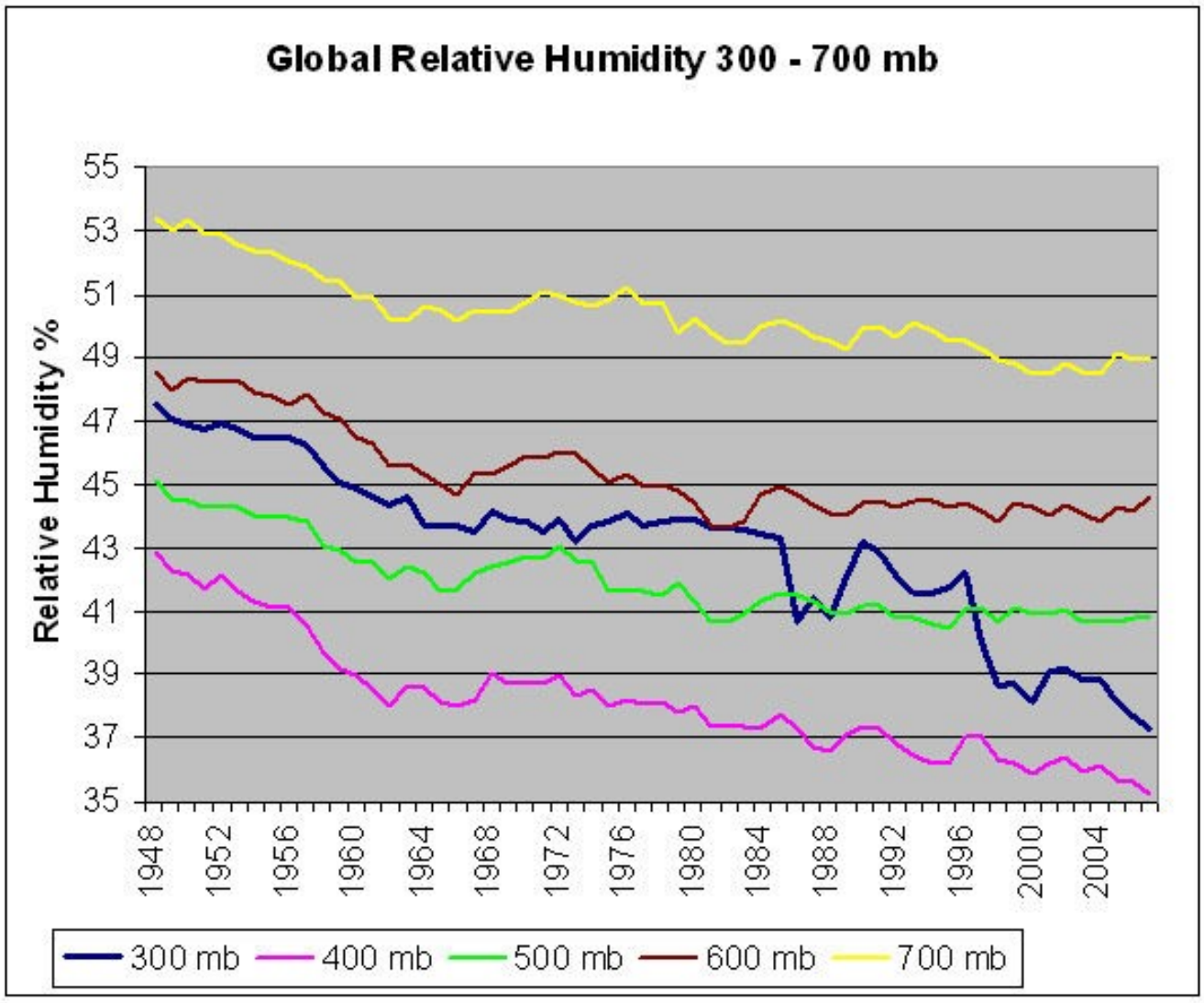
CO2 is a greenhouse gas, so if our emissions of CO2 causes an increase in the total effective amount of greenhouse gases in the atmosphere, it would tend to increase global temperatures.

The IPCC states (4AR Chapter 8 page 632):

> Calculations with GCMs suggest that water vapour remains at an approximately constant fraction of its saturated value (close to unchanged relative humidity (RH)) under global-scale warming. ... the largest contribution to the feedback, occurs in the upper troposphere.

But here is the actual relative humidity at various levels in the atmosphere.



This graph shows that the relative humidity has been dropping, especially at higher elevations allowing

more heat to escape to space. The curve labelled 300 mb is at about 9 km altitude, which is in the middle of the predicted (but missing) tropical troposphere hot-spot. This is the critical elevation as this is where radiation can start to escape without being recaptured. The average relative humidity at this altitude has declined by 21.5% from 1948 to 2007!

CO2 measurements since 1958 show CO2 concentrations have increased by 22% (Mauna Loa, Hawaii). At the same time, relative humidity has declined by 18% at the 300 mb, or 9 km altitude, which is where the IPCC agrees most of the water vapour feedback occurs. But a percentage change of water vapour has about 4 times the effect as a percentage change in CO2. (The GISS GCM shows that removing all water vapour would reduce the GHE by 36%, but removing all CO2 would reduce the GHE by 9%). This implies that only a 5.5% (22%/4) reduction in water vapour in the upper atmosphere would completely offset the increase in CO2. The actual relative humidity decrease (1958 to 2007) was 18.1%, 11.3% ,5.2%, 5.4%, 5.0% at levels 300 mb, 400 mb, 500 mb, 600 mb and 700 mb, respectively.

The new greenhouse theory presented in Miskolczi's paper shows that the atmosphere maintains a "saturated" greenhouse effect, controlled by water vapor content. This data confirms that CO2 emissions just replaces water vapour as a greenhouse gas, and does not increase global temperatures. See here (http://www.friendsofscience.org/assets/documents/The_Saturated_Greenhouse_Effect.htm). Greenhouse gas emissions is the only forcing that could theoretically change relative humidity.

The total effective greenhouse effect is often characterized by the parameter "optical depth", which is defined a the negative of the natural logarithm of the long-wave radiation transmittance from surface to space. That is, it is a measure of how opaque the atmosphere is to long-wave radiation.

I want to create a graph of global average optical depth using the CO2 concentration and water vapour humidity data at various depths in the atmosphere. Can anyone tell me how to do this?? The humidity data is from the NOAA Earth System Research Laboratory here (http://www.cdc.noaa.gov/cgi-bin/Timeseries/timeseries1.pl).

I believe a graph of optical depth will show no increase since 1958 despite the 22% increase in CO2 concentrations, so CO2 emissions do not add to the effective amount of greenhouse gases in the atmosphere.

Regard,

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Friends of Science