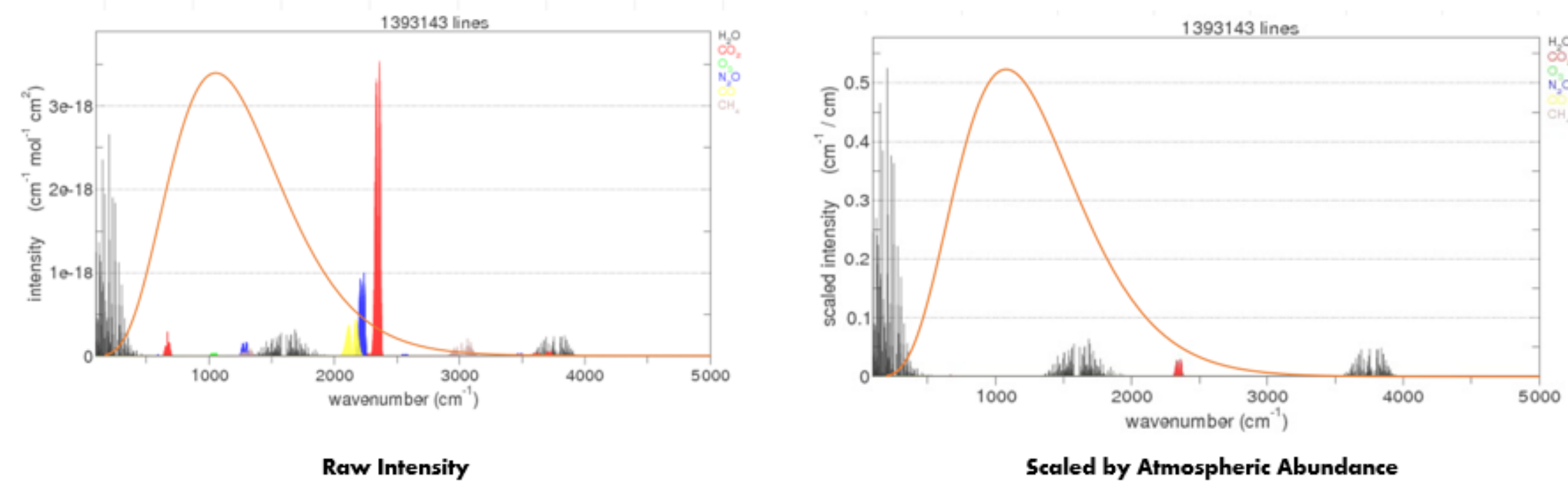




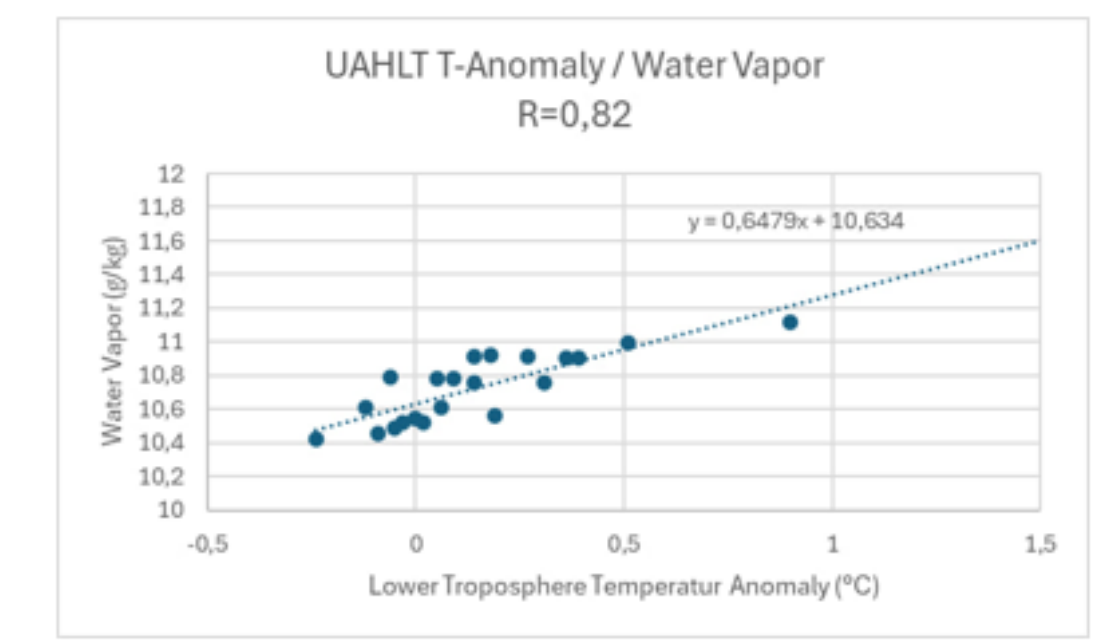
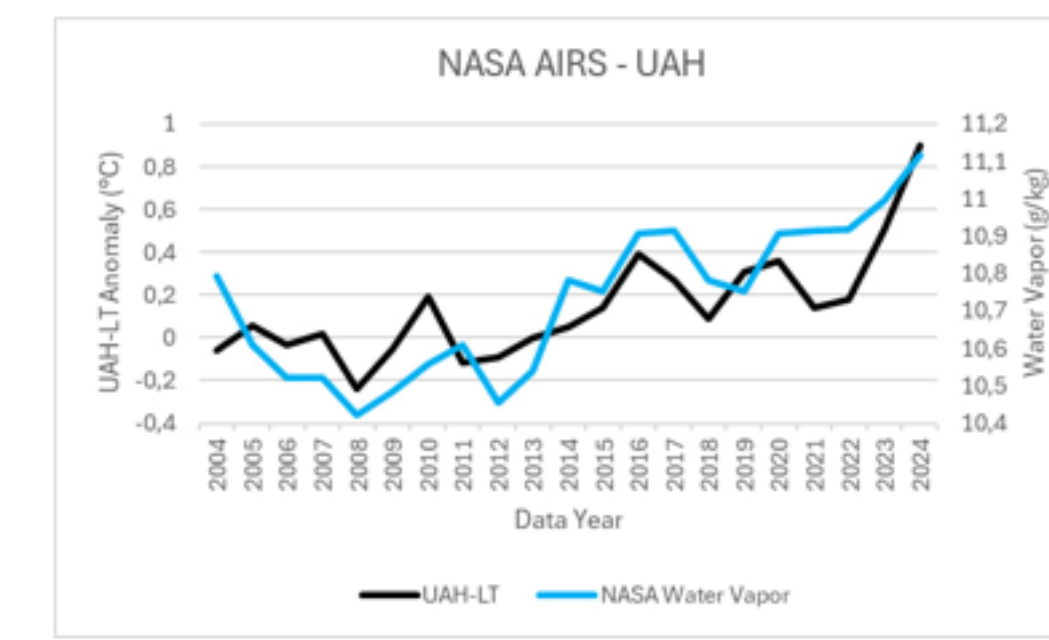
SIMULATION OF RADIATIVE FORCINGS

We used modelling tools like Spectralcalc, MODTRAN, RRTM and CMIP5 to support the argumentation on minor climatic contributions due to CO2 doubling in concentrations. Comparing similar geographic zones in the northern and southern hemisphere reflect different temperature history during the last 150 years. This cannot be simply explained by greenhouse gas increases.



NEGATIVE WATER FEEDBACK

If a system equilibrium is disturbed by changing parameters, it restores an equilibrium by counteracting. A negative water feedback loop from cloud formations depends on condensation aerosol concentrations, realistic albedo values depending on optical depths measurements and other limitations. This natural thermostat is counteracting an additional greenhouse effect of increased water vapor at slightly increased global temperatures.



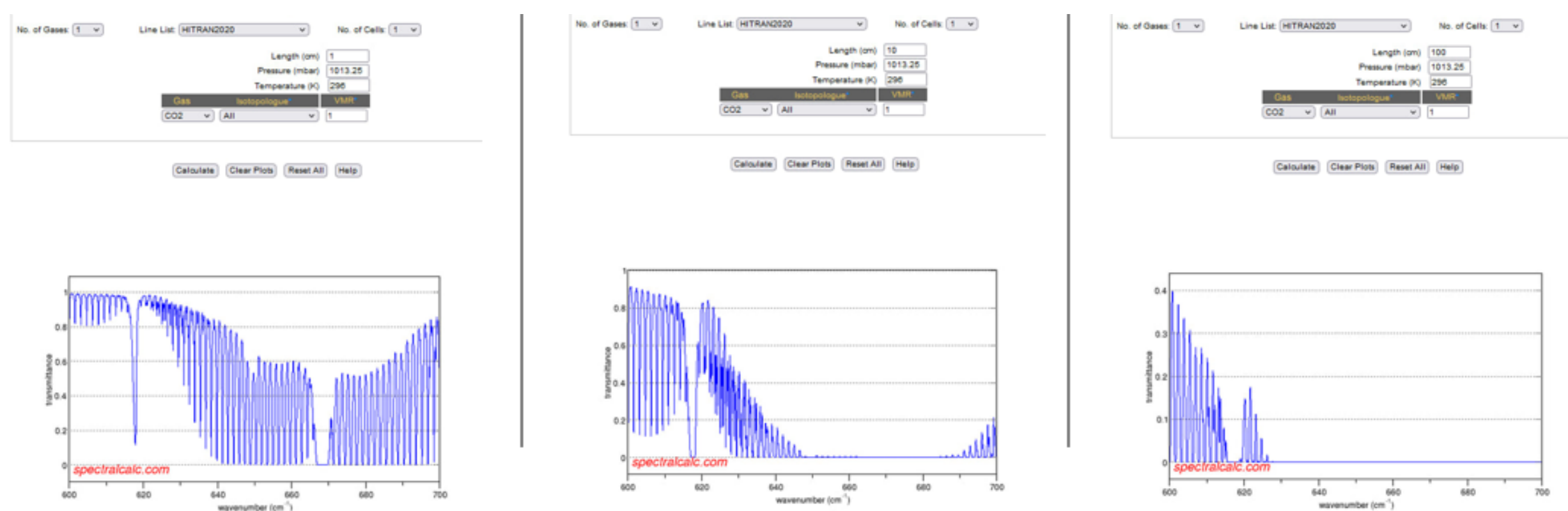
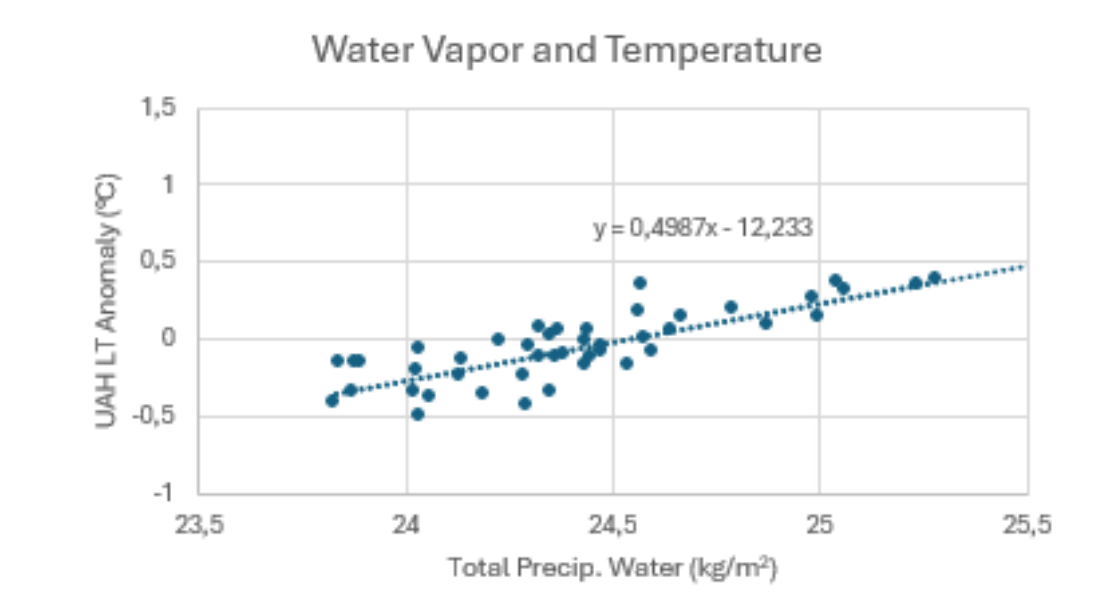
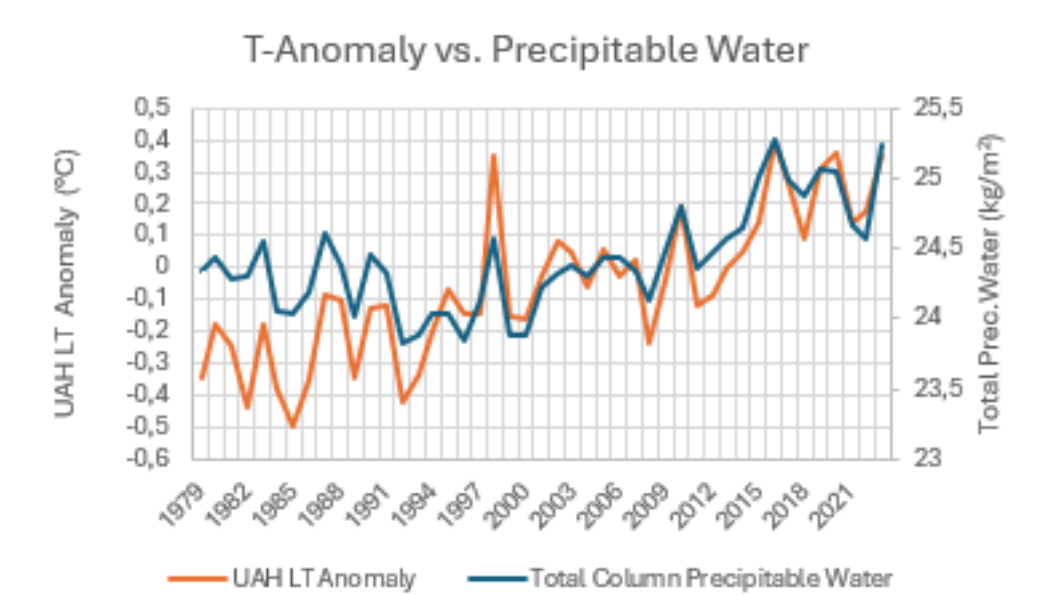
The equilibrium (saturation) concentration increases following fundamental thermodynamic theory of the Clausius-Clapeyron

$$\frac{dP}{dT} = \frac{PL}{T^2R}$$

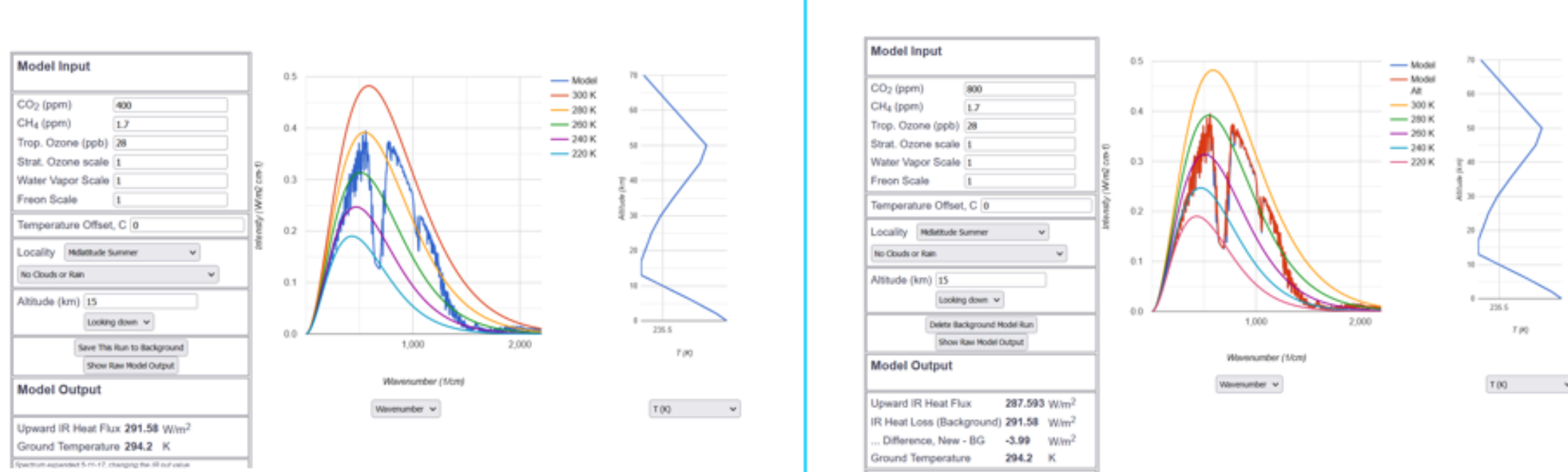
$$\frac{dP}{PdT} = \frac{L}{T^2R}$$

L Latent Heat

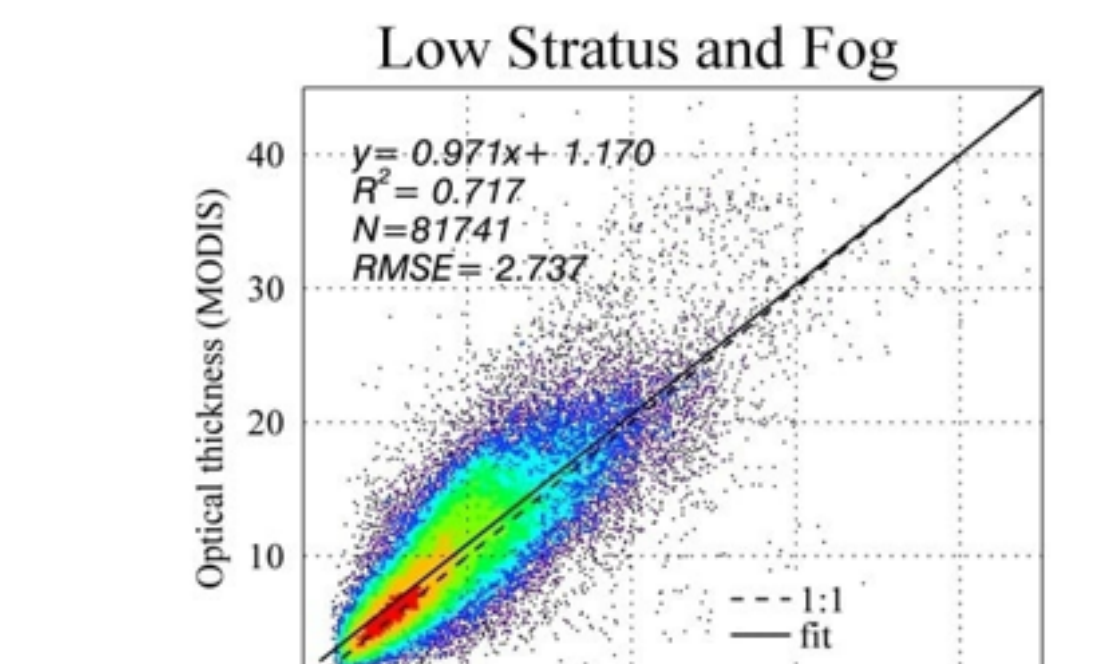
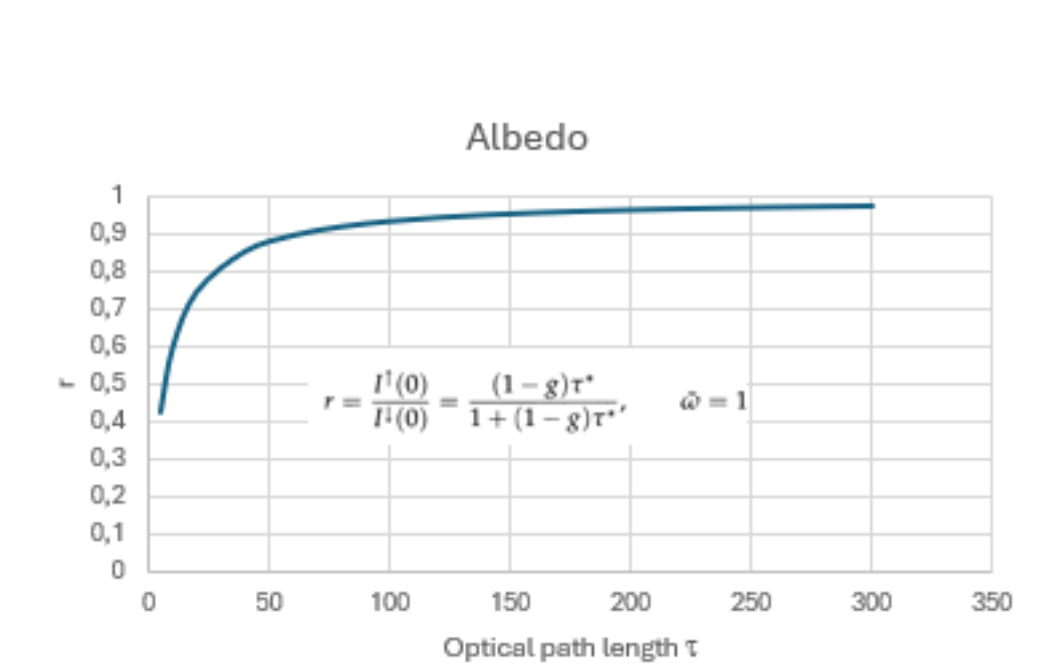
$$\frac{\partial f_{clouds}}{\partial T_{surface}} = \frac{0,65}{10,63} \approx 0,06 \approx 0,07 \text{ Trenberth (2003)}$$



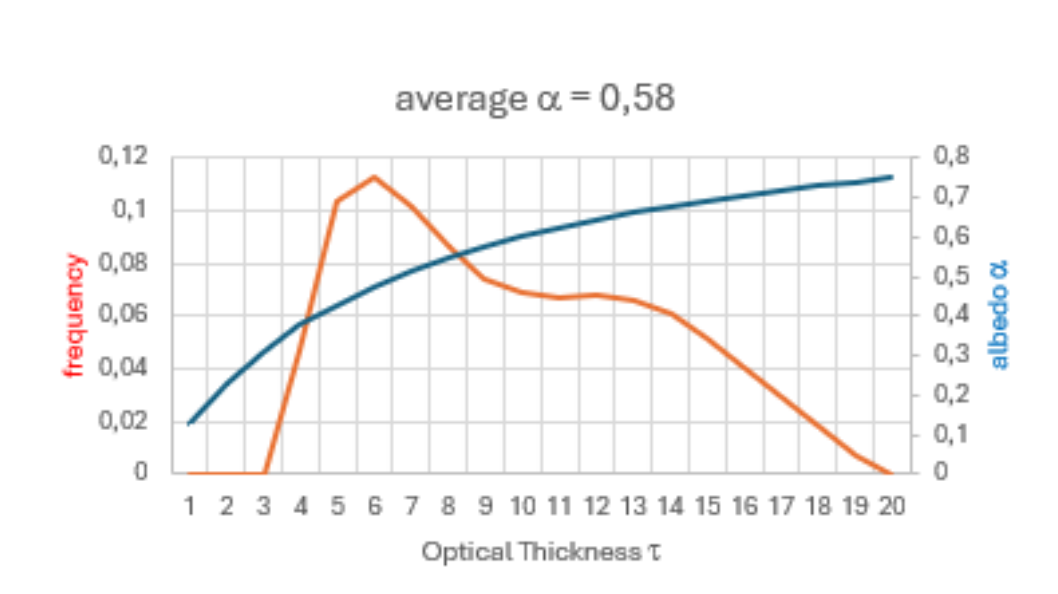
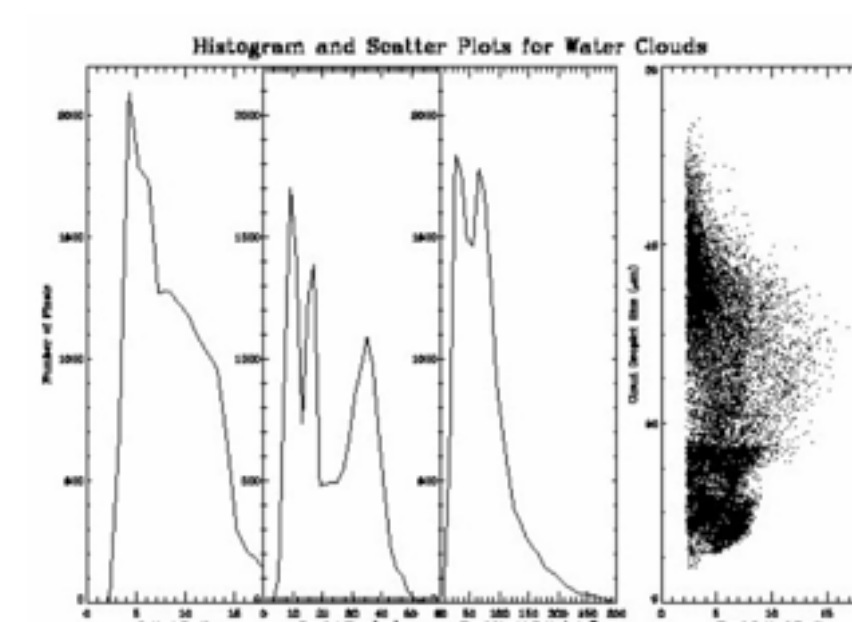
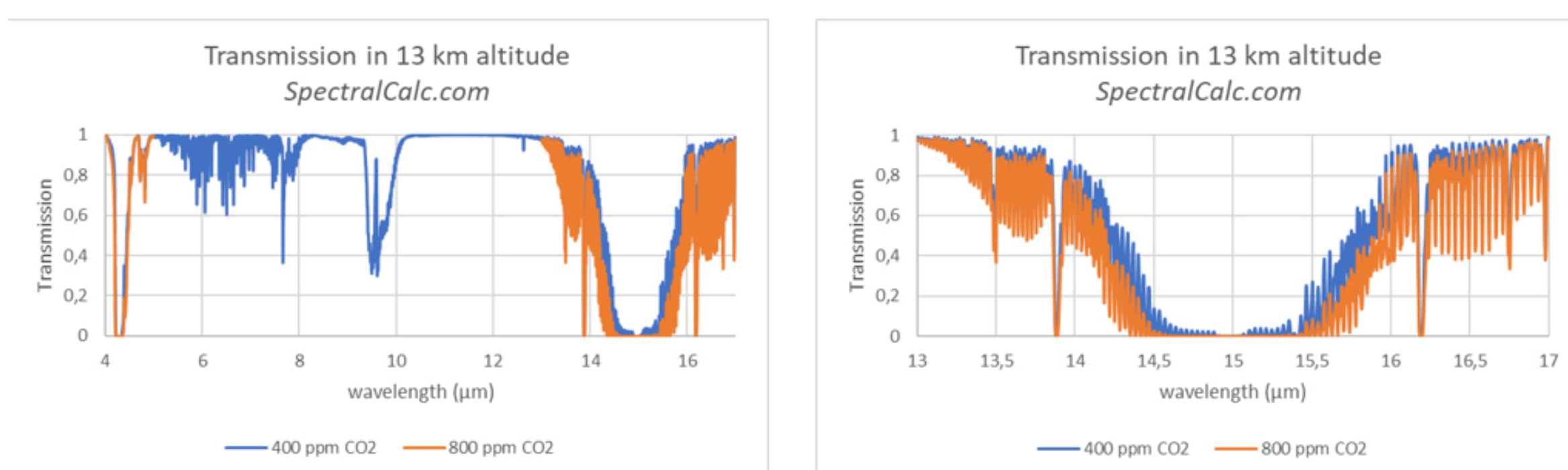
Transmission at 15μm at different column-lengths



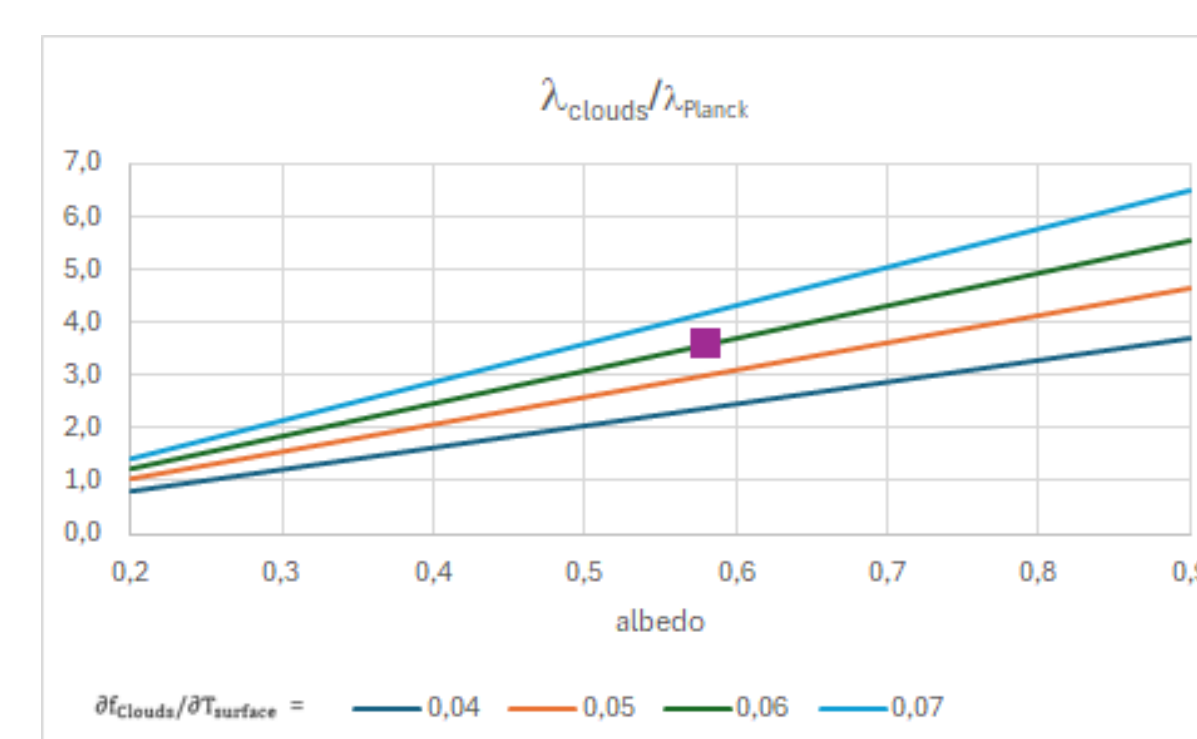
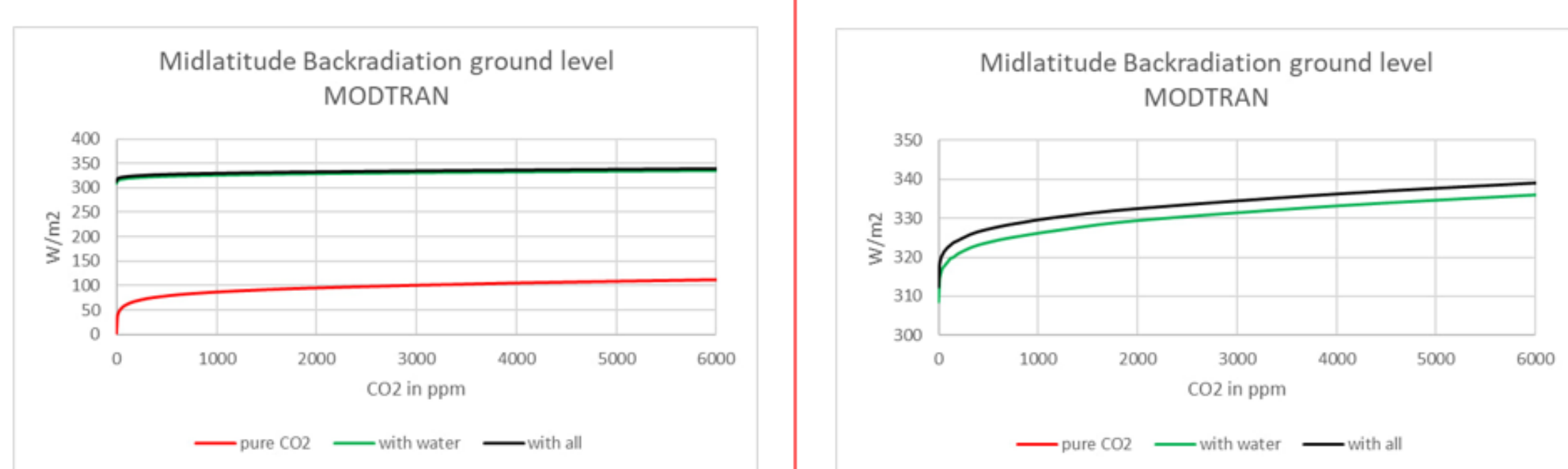
MODTRAN simulations at different CO2 concentrations looking down



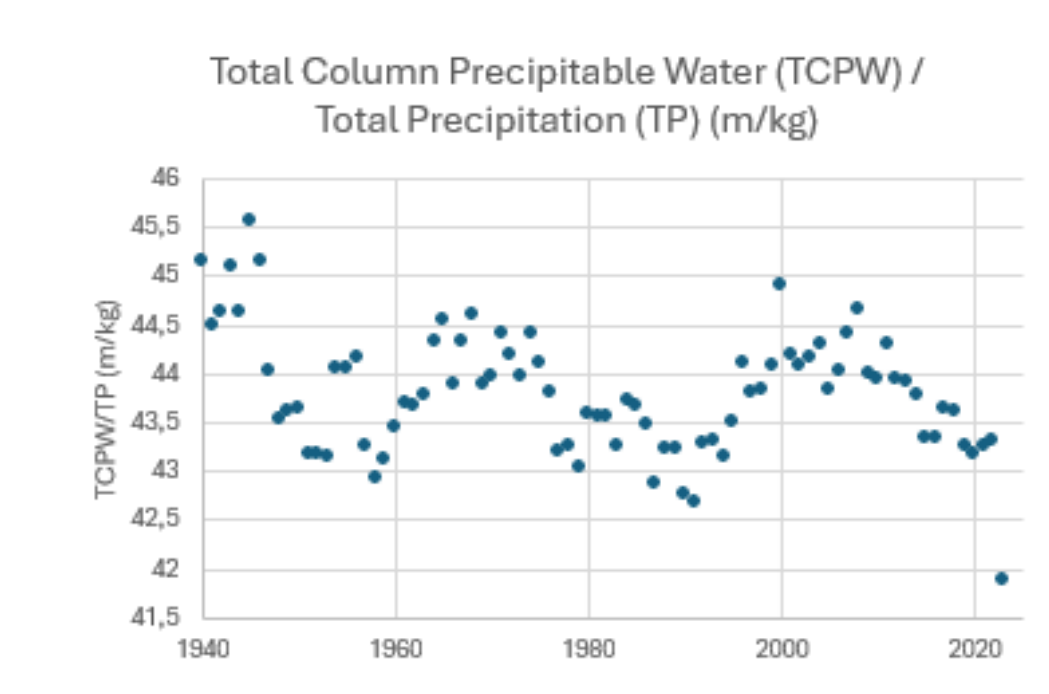
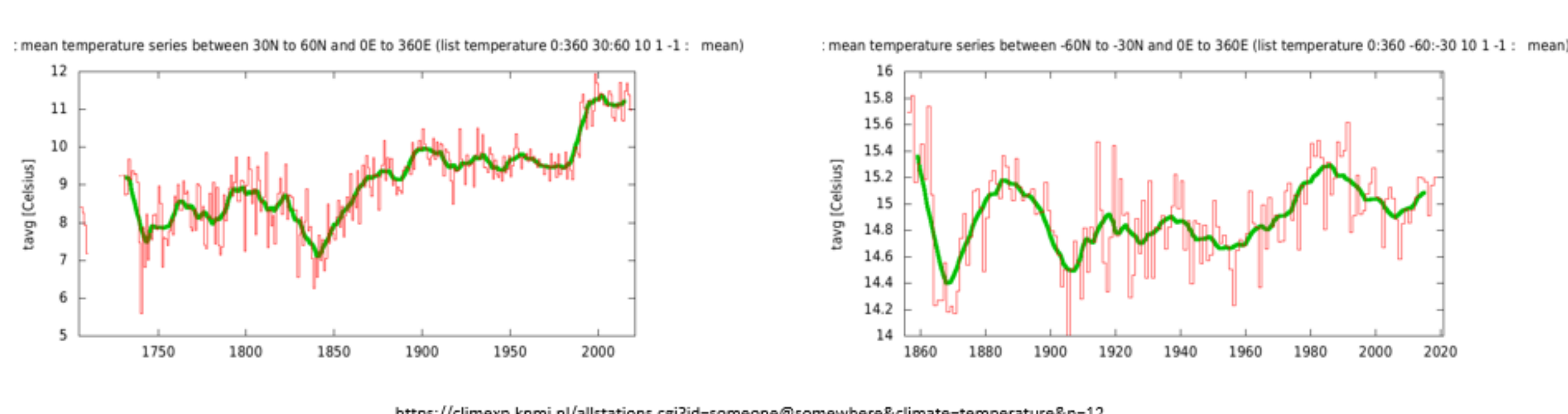
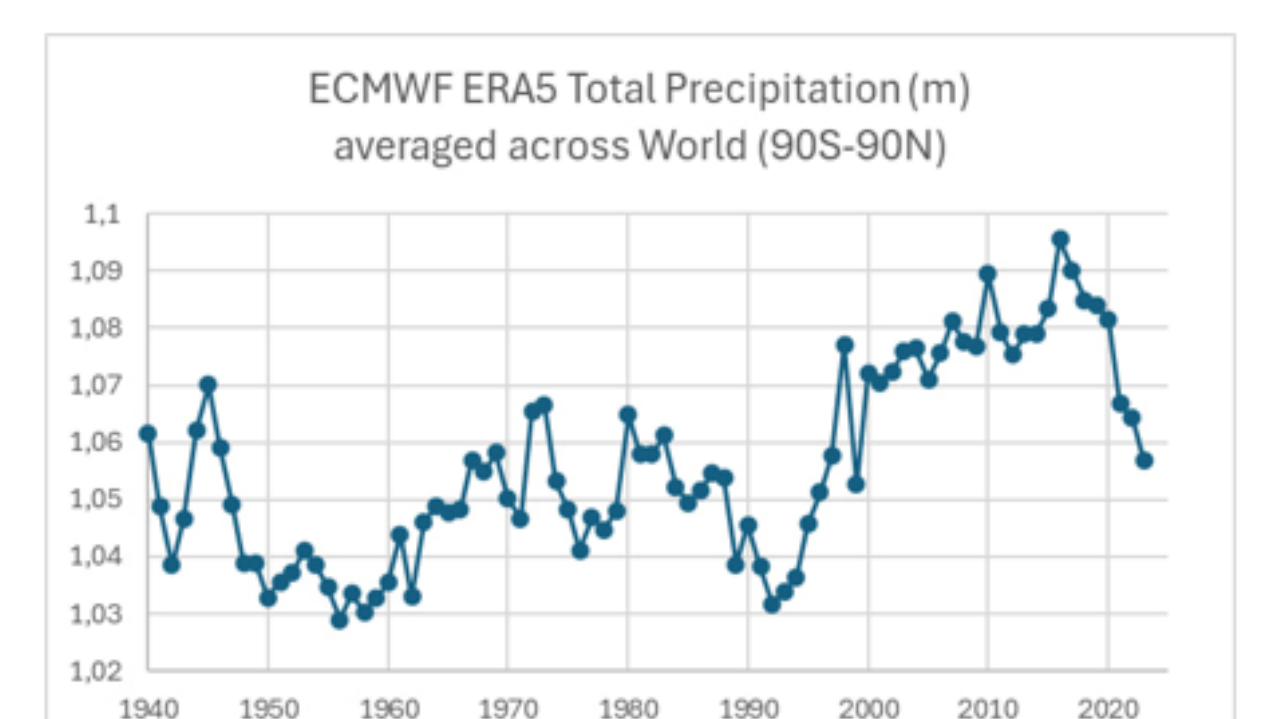
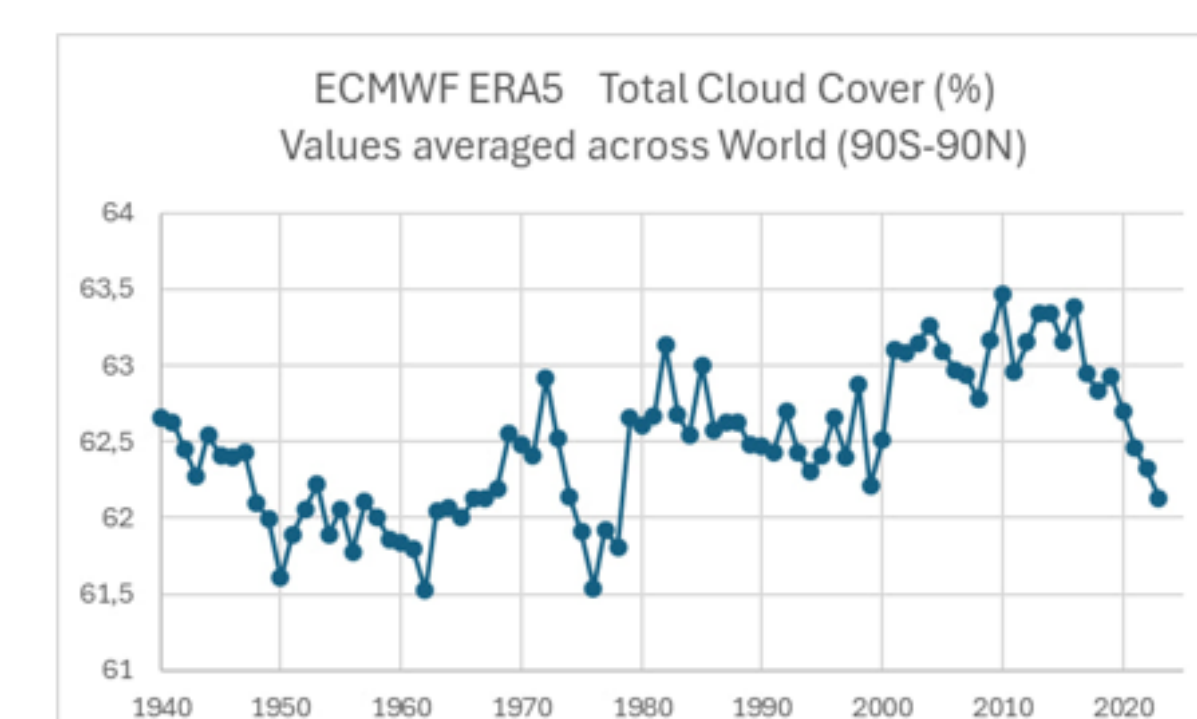
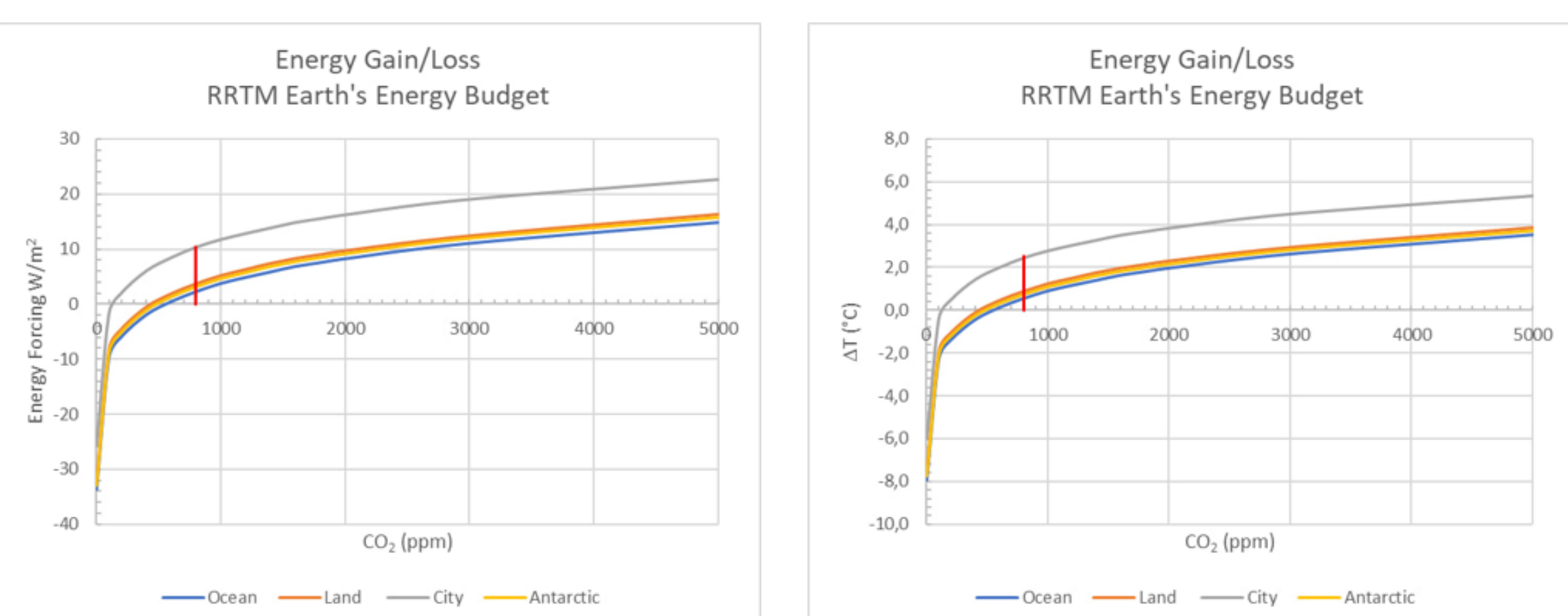
Grant W. Petty, A First Course In Atmospheric Radiation (2nd Ed.)



<https://web.cfa.harvard.edu/~xliu/res/CloudRetrieval.htm>



Water thermostat counterforcing is **3.6 times stronger** than the radiative forcing of 3.3 W/m2



Q: is there a driver for this (pseudo-) cycle