**Radiative Forcing**

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The heat balance of the earth—like that of every planet and moon—is determined by precisely three variables: sunlight at orbit, albedo (reflectivity), and the amount of IR going to space. All of them involve radiation, either visible light from the sun or invisible IR. The IPCC defines radiative forcing not as the quantities of these radiative contributions, but as changes in them from some reference point (typically the 1850-1900 period, but sometimes the present).

In the IPCC’s musings, the sun remains constant, so there are only two classifications of forcing. For example, melting of snow (exposing darker earth beneath) and changes in land use can change the planetary albedo. Changes in greenhouse gases can temporarily alter the amount of IR going to space, but in due time that quantity must equal the net absorbed sunlight.

Let us look at the radiative forcing chart from IPCC’s Third Assessment Report (TAR) [2001]; see Figure 2. All the formulas are approximations that are fairly good from half present concentrations of the gases to double concentrations. Plug in the present (or 1850) concentrations (C, M, N, X, with subscript 0)) and hypothetical future concentrations into the formulas, and you get the forcing in watts per square meter.



Figure 2: Radiative forcing chart from TAR.

 [ppm is parts per million by volume; ppb is parts per billion by volume]

Did you notice anything missing from the chart in Figure 2? Even the IPCC contributors know that H2O is the most important greenhouse gas, yet there is no reference to it whatsoever.