Two-Layer Atmosphere Model

Adapted from John Harte, *Consider a Spherical Cow: A Course in Environmental Problem Solving*, University Science Books (1988)

Solar constant, $\Omega = 1361 \text{ W/m}^2$

Albedo, $a = 0.297$

Convection, $F_c = 17 \text{ W/m}^2$

Evaporation, $F_e = 80 \text{ W/m}^2$

Absorbed solar, $F_s = 86 \text{ W/m}^2$

Radiation emitted through 8 – 12 $\mu$m window, $F_w = 20 \text{ W/m}^2$

Waste heat generated by consumption of fossil and nuclear fuels, $W = \text{small W/m}^2$

All $F \pm 10\%$ except $\Omega$