

**Corrections to be made to “Global Physical Climatology”  
by D.L. Hartmann.**

Page 26: Equation at top of page in Example: Change  $-34^{\circ}\text{F}$  to  $0^{\circ}\text{F}$ .

Page 39, Problem 7: Add this sentence at the end of the problem. “You may assume that Earth’s orbit is circular and ignore absorption of solar radiation by the atmosphere.” Or if a more brief addition is required “Ignore eccentricity and atmospheric absorption.”

Page 47, Fig. 3.3, Replace with updated one.  $v_1$  symmetric is missing an atom in triatomic structures.

Page 58, Change equation (3.33) to,

$$\mu \frac{d}{d\tau_v} \left\{ I_V(\tau_v(z), \theta) e^{\{\tau_v(z)/\mu\}} \right\} = B_V(T(\tau_v(z))) e^{\{\tau_v(z)/\mu\}}$$

Page 80, Problem 6: Add the following sentence at the end of this problem “How do the required convective fluxes change as you move the top level?”

Page 114, Problem 3, last line: Remove  $s^{-1}$  unit from  $C_D$ . That is, change “ $C_D = 2 \times 10^{-3} s^{-1}$ ” to “ $C_D = 2 \times 10^{-3}$ ”.

Page 120, last sentence of first full paragraph: Change the sentence beginning “About 60% of the precipitation that falls . . .” to “The evaporation from a continent is typically 60% of the precipitation on that continent.”

Page 169, Problem 6: Change “Fig. 2.10” to “Fig. 2.11a”.

Page 201, the second line of the equation on this page: Change  $3.2 \text{ PW } s^{-1}$ ” to “ $3.2 \text{ petaWatts}$ ”

Page 221, Fig. 8.10: Make sure the figure is printed and not blank.

Page 228, Problem 6: Change “5000 years” to “500 years”.

Page 228, Problem 7: Change “ $2 \times 10^{11} \text{ kg } s^{-1}$ ” to “ $2 \times 10^{10} \text{ kg } s^{-1}$ ”.

Page 228, Problem 8: Change “. . . over this period would be equal to the rate of deep water formation in the north Atlantic?” to “. . . over this period would decrease the salinity by 2‰?”.

Page 242, first line of text: Change “increases with latitude” to “decreases with latitude”.

Page 284, problems 1: Change units of  $k_1$  from “ $W m^{-2} K^{-1}$ ” to “ $W m^{-1} K^{-1}$ ”.

Page 284, problems 2: Change units of  $k_2$  from “ $W m^{-2} K^{-1}$ ” to “ $W m^{-1} K^{-1}$ ”.

Page 293, Table 11.1: In second line of table lable, change “Sources of Aerosols by Mass” to “Sources of Aerosols by Mass ( $\text{Tg yr}^{-1}$ )” “ The table needs units.

Page 303, Figure 11.9: Replace Fig. 11.9 with corrected one.

Page 307, number 2, Obliquity, 4th line: Change 15% to 10%.

Page 318, problem 4, Change “Fig. 11.9” to “Fig. 11.10”.

Page 324, 12.2.2 Halocarbons, line5: Change “The reasons for the strong greenhouse . . .” to “The reason for the strong greenhouse . . .” i.e. make reason singular.

Page 337, equation 12.4: Change “ $dt$ ” to “ $dt'$ ” at end of equation. Needs to be primed variable of integration.

Page 345, problem 5, lines 4-5: Change “ $Q_t = 4 \text{ Wm}^{-2} 50 \text{ years}^{-1}$ ” to “ $Q_t = 4 \text{ Wm}^{-2}$  in 50 years”

Page 349, equation (A.7): Change summation from  $n=0$  to 3, to  $n=0$  to 2.

Page 375. Answer to problem 2, chapter 5: Change units to  $\text{mm day}^{-1}$ .

2. (a)  $1.1 \text{ mm day}^{-1}$ ; (b)  $0.28 \text{ mm day}^{-1}$ ; (c)  $7.8 \text{ mm day}^{-1}$ ; (d)  $1.67 \text{ mm day}^{-1}$ .

Page 376: Answers to Selected Exercises:

Chapter 8, Number 7: Change to “From 35 to 34‰”.

Chapter 10, Number 1 (a): Change to “(a)  $T_s = -2^\circ\text{C}$ ,  $\text{SH} = 180 \text{ Wm}^{-2}$ ”

Chapter 10, Number 3: Change to “(a) 9m; (b) 4.5m”

Chapter 11, Number 4: Change to “The difference is about  $110 \text{ Wm}^{-2}$  or 23%, with a larger contribution from precession (~16%) than from obliquity (~7%).”

Page 376, Add answer to Chapter 12, Number 4: New line “4. (a)  $\epsilon = 10^{-4}$ ; (b) 276 K.

**For those with the second edition, there are two small corrections on p. 375:**

*Chapter 5*

1. 69 years; 1952 years

2. The units should be  $\text{cm/day}$  and not  $\text{mm/day}$ . [or the answer should be as noted above]