

Errata

Chapter 1

Page 5. Remove "(GNP)".

Chapter 2

Page 13. Second paragraph of Blackbody Radiation section, first sentence, change "sound" to "light".

Page 14. Change units on Y axis to $(W/(m^2 \text{ wave number}))$.

Chapter 3

Page 20. Change albedo numbers in text to 0.71 (Venus), and 0.33 (Earth) for consistency with table 3.1

Page 22. Formula 3.1, the fourth root is written incorrectly as 4 times the square root.

Page 23. Table 3.1 change T_{bare} for Earth to 251 K.

Chapter 4

Page 35, last full paragraph, text in bold "20 times more powerful" change to "30 times more powerful".

Page 31, Figure 4-2. The bending mode for CO_2 is 667 cm^{-1} , and the asymmetric stretch is 2349 cm^{-1} . A modified version of this figure is included in this file.

Page 32. The figure label for 280 and 300 K are switched.

Page 36. Equation 4.3 should read $x = \ln(y)$.

Chapter 5

Page 53. Project 2a, Stefan-Boltzmann constant exponent is -8, not 8. ($5.67 \cdot 10^{-8} \text{ W/m}^2 \text{ K}$)

Chapter 6

Page 62. Change 1850 to 1855.

Chapter 7

Page 74. "We will keep a table"; there is no table.

Page 78. In the text, change "el Nino" and "la Nina".

Page 79. Figure 7.7 caption, the descriptions of el Niño and la Niña are reversed.

Chapter 8

Page 85. last line change "0.38%" to "0.038%".

Page 90. Spurious lines on atmospheric CO_2 Moana Loa plot.

Page 95 1st full paragraph, second line, figure reference should be 8.1

Page 96. "On time scales shorter than this, it is perfectly possible " change "for perturbations" to "to perturb".

Chapter 9

Page 99. "Mankind is consuming about 13 TW of energy per year" change to "power".

Page 100. Caption to Figure 9.2 change "energy" to "power".

Page 108. In formula, denominator of the last factor should be Watts, not \$.

Page 109. "rising from US\$930 in 1990" change to "1900".

Chapter 10

Page 115, first line of text. Change "20 times more powerful" to "30 times more powerful".

Page 117. "Fossil fuel combustion releases 5 Gton C/year" change to "8".

Page 117, Figure 10-2. A modified version of this figure, updated to IPCC Fourth Assessment Report values, is attached.

Page 118. "Combining fossil fuel combustion and tropical deforestation ... rate of about 7 Gton C / year" change to "9". "The atmospheric CO₂ inventory is rising at a rate of about 3 .." change to "4".

Page 121. Last sentence of the first complete paragraph, change "seawater has greater capacity to hold seawater", to "seawater has greater capacity to hold carbon".

Page 123. "Of the 7 Gton C / year that mankind is releasing to the atmosphere today, 4 Gton C / year is going away..." change to "9" and "5". "... say a reduction of of total carbon emission by 40%" change to "about 50%". "its current level of 365 ppm" change to "380".

Page 124. "would remain at 365 ppm for thousands of years" change to "380".

Chapter 11

Page 132. Last sentence of the first paragraph, change to "the frequency of light this generates falls outside the main blackbody spectrum of the Earth" (add the word "main").

Page 135 end of first full paragraph, "reache equilibrium" change to "reach equilibrium".

Page 136, Figure 11-6. The volcanic fluxes are inverted, they ought to be negative. A modified figure is included in this file.

Page 137. "the period from 1900 to 1950" change to "1900 to 1940".

Page 140, second full paragraph. Both figure references should be to Fig. 11.7.

Chapter 12

Page 147, top line. Change "1.9° C and 4.1° C" to "1.7 °C and 5.3 °C".

Page 149. Add x axis label "Years".

Page 151. Second sentence, last paragraph, change to "Winter temperatures in Alaska and Western Canada" (add the word "Winter").

Page 154. Change "Athens" to "Syracuse".

Plate 12.5. This figure is hopelessly scrambled. The top two maps are for the year 2300, and the bottom map is 2000. A modified figure is included in this file.

Chapter 13

Page 177, 11th line. Change "worth about paying about" to "worth paying about".

Page 179, 5th line. Change "(Fig 12.6)" to "(Fig 12.7)".

Page 180. "... carbon emission rate from the Kaya model ... it is about 700 ppm". Change to "18 Gton C / year".

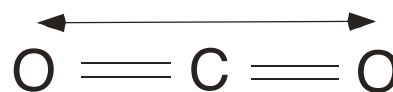
Back cover. Photo attribution is wrong.

Resting State



No Resting Dipole

Symmetric Stretch



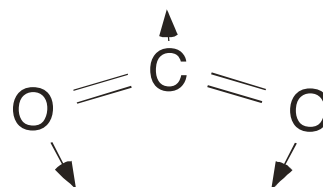
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Asymmetric Stretch

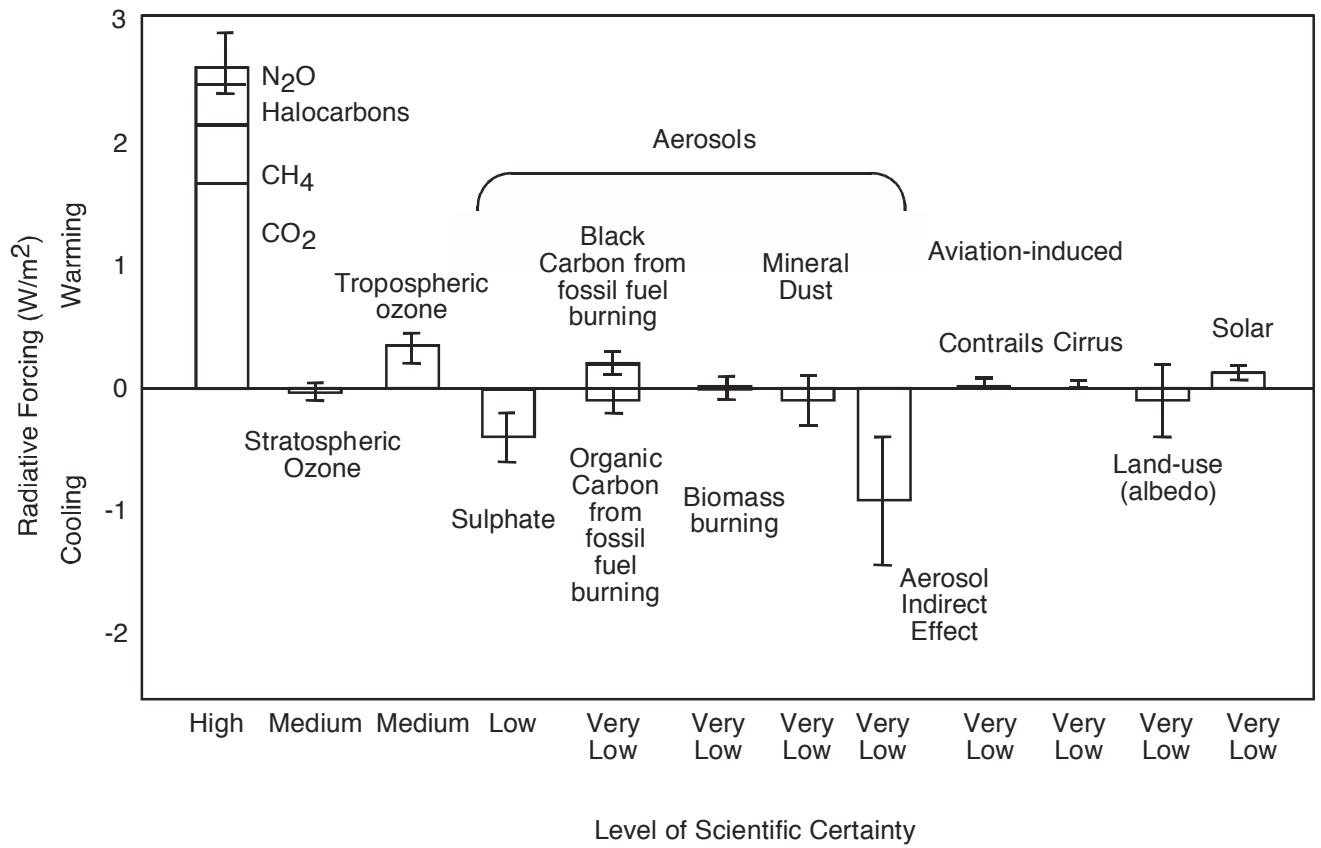


2349 cm^{-1}

Bend



667 cm^{-1}



Updated Figure 10.2 with results from IPCC Fourth Assessment Report, 2007

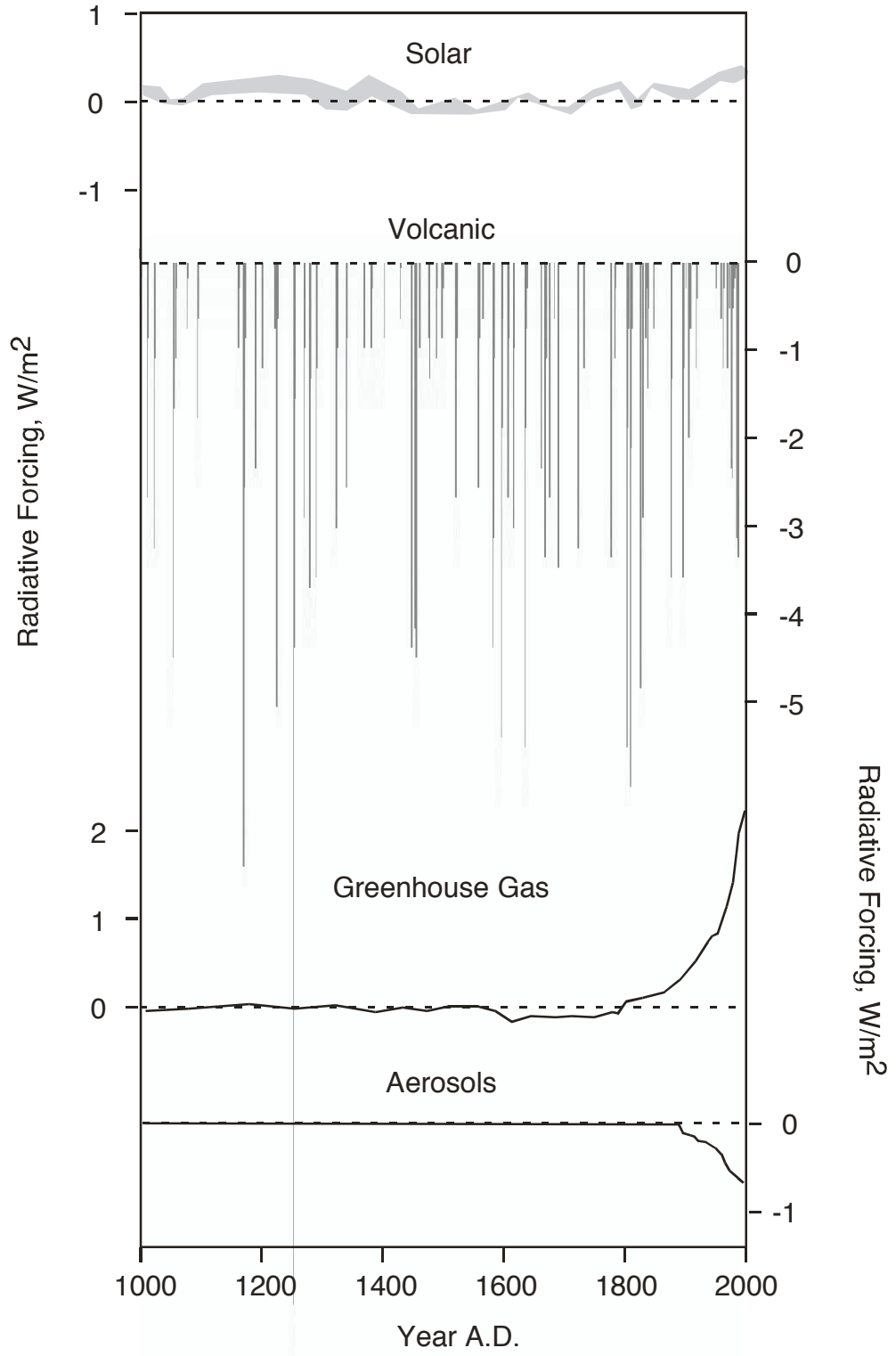
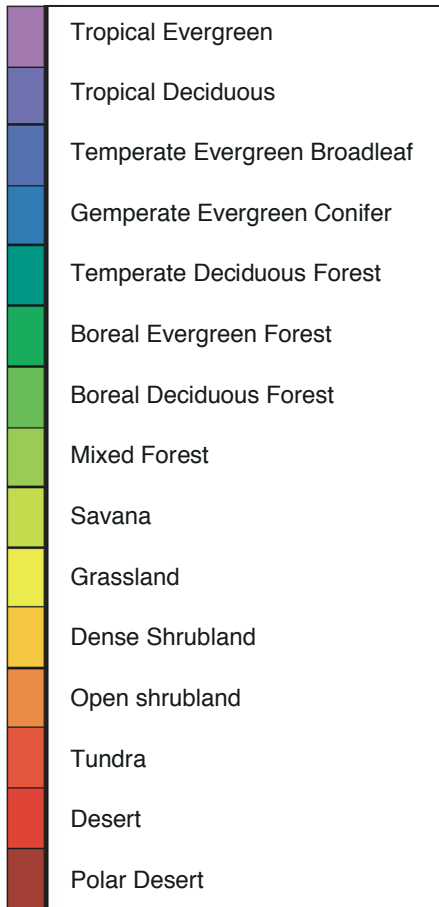
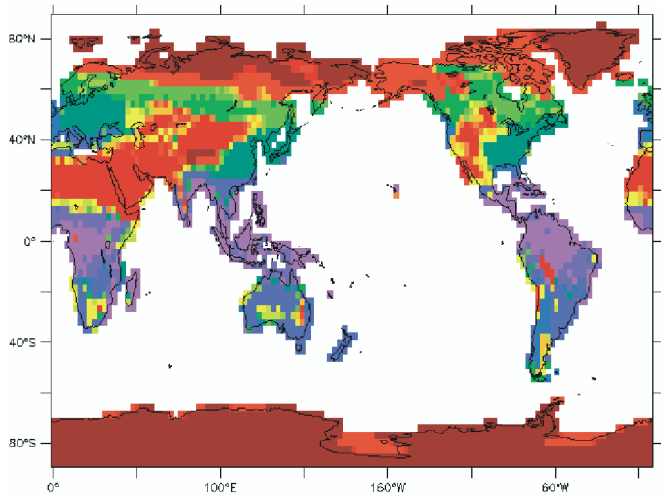


Figure 11-6

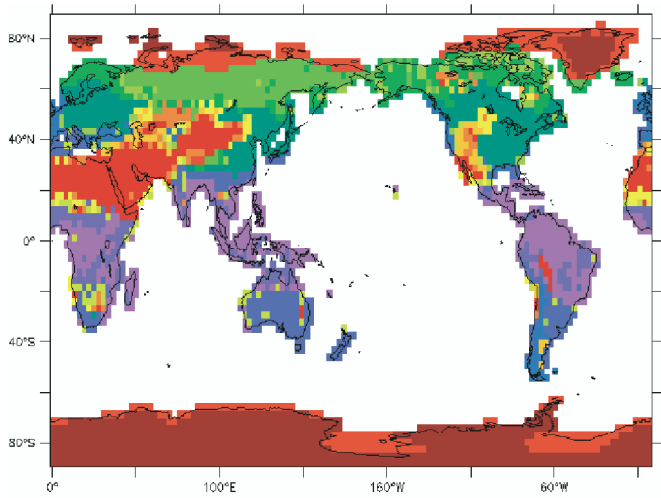
Land Biomes



Year 2000



Year 2100



Year 2300

