

# Atmospheric Pollution: History, Science, and Regulation

## Corrections and Modifications

Mark Z. Jacobson  
Department of Civil & Environmental Engineering

Cambridge University Press

Last updated July 20, 2007

\*\*\*\*\*

### Acknowledgments

P. xi. Change “Osalp” to “Ozalp”

P. xi. Add Diana Ginnebaugh, Jacques Grinevald, Ricardo Kulheim, Yang Zhang  
alphabetically to Acknowledgments

### Chapter 1

P. 11. Section 1.2.2.2. Change “inflammable” to “flammable” for clarity although both  
mean the same thing.

P. 13, last line. Change “ $K_2CO_2(s)$ ” to “ $K_2CO_3(s)$ ”

P. 14, line 1. Change “poisonous or foul smelling” to “noxious or poisonous”

P. 14, line 3. Add the sentence. “Nitrogen is tasteless, colorless, and odorless.” After  
“..volume.”

P. 14, line 3, add “in 1790” between “given” and “by Jean Antoine Chaptal”

P. 17, six lines from bottom, change “feldspar” to “fluorspar”

P. 20, Section 1.2.3.7. Change “ozien” to “ozein”

P. 27, Problem 1.8, change “(a) Priestly” to “(a) Priestley”

## Chapter 2

P. 39, Figure 2.7 (b): “Lower mantle (400-2900 km)”, change “400” to “700”

P. 42, last line of text; P. 43, line 4; P.46, line 4; and P. 46, 9<sup>th</sup> line from bottom”, change “two step” to “two-step”

## Chapter 3

P. 60, two lines above Example 3.4, change the units for Boltzmann’s constant from “m<sup>3</sup> mb K<sup>-1</sup>” to “m<sup>3</sup> mb K<sup>-1</sup> molec.<sup>-1</sup>” and from “cm<sup>3</sup> mb K<sup>-1</sup>” to “cm<sup>3</sup> mb K<sup>-1</sup> molec.<sup>-1</sup>”.

P. 63, Table 3.3. Change “C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>” to “C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>(g)”

P. 65, line 6 from the bottom, change 'Denitritication' to 'Denitrification'

P. 71 Under "Sources and Sinks" section, add a period “.” to the end of the last paragraph

## Chapter 4

P. 89, line 30, change "erly" to "early", and change "garage", to "garbage"

P. 94, Example 4.1, change 44.7 ppbv to 45.2 ppbv

P. 108, line 7, change “[C<sub>6</sub>H<sub>5</sub>CH<sub>3</sub>(g)]” to [C<sub>6</sub>H<sub>4</sub>(CH<sub>3</sub>)<sub>2</sub>(g)]”

## Chapter 5

P. 125, 10<sup>th</sup> line from bottom, change “Metamorphisis” to “Metamorphosis”.

P. 134, reaction (5.7), add “2” before “NO<sub>3</sub>”

P. 140, 17<sup>th</sup> line from top, change “containing” to “coated by”

P. 141, 14<sup>th</sup> line from bottom, change “Mortality was...sulfates.” to “Fine particles, including sulfates, were correlated with mortality.”

P. 150, lines 10 and 12 and P. 388 (index), change "meridional" to "meridional"

P. 150, Fig. 6.5. Change “H” at tropopause at 60N and 60S to “Lower” and “L” at tropopause at 90N and 90S to lowest to indicate altitude at constant pressure decreases from equator to pole aloft. Change the text to correspond to this correction.

## Chapter 6

P. 156. Table 6.2. Change “Varying” to “Variable” four times.

P. 164. Figure 6.15, caption. Change July 23 to December 19.

P. 167. Fourth paragraph. Change “Mount Washington, Vermont” to “Mount Washington, New Hampshire”

P. 176. Figure 6.28, Change slopes of dry and wet adiabatic lapse rates in second layer from bottom to the same slopes as in the other layers.

## Chapter 7

---

## Chapter 8

P. 224, 5<sup>th</sup> line from bottom, change “Currently,...” to “In 2002,...”

P. 227, 19<sup>th</sup> line from the bottom. Change “Sao Paolo, the capital of Brazil...” to Sao Paolo, Brazil” since Sao Paolo is not the capital.

P. 228, line 9. Remove “derived mostly from the Amazon River.”

## Chapter 9

P. 245, line 5 from bottom, second paragraph, change “British physicist Ernest Rutherford ....”, to “the New Zealand-born British physicist, Ernest Rutherford...”

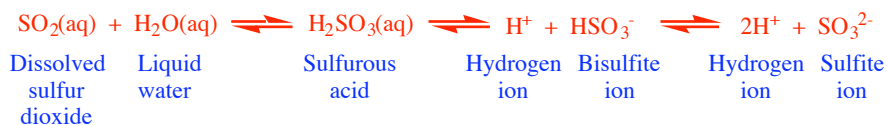
P. 246, 6<sup>th</sup> line under the heading, “Concentrations,” change “is a the number” to “is the number”

P. 246, 5<sup>th</sup> line under the heading, "Health Effects," change "increases" to "increase"

P. 250, Table 9.3 and P. 252, Problem 9.3. Change “Particulates” to “Particles”

## Chapter 10

P. 262. Equation 10.11 should read



## Chapter 11

- P. 278, Table 11.1. Change “Particulate” to “Particle” two times.
- P. 278, line 13, delete “-“ after “Gas”
- P. 280, 7<sup>th</sup> line of Section 11.3.2, change “(Section 2.3.5)” to “(Section 2.3.6)”.
- P. 290. Second-to-last paragraph. Change “not transported from” to “not transport from” and change “but transported from” to “but transport from”.
- P. 290. Second-to-last paragraph. Change “about 55 and 116 years,” to “about 45 and 100 years,”
- P. 295, 8<sup>th</sup> line of Section 11.8, change, “220 DUs” to “220 DU”
- P. 297 Second paragraph. Change “...deposited to the ice phase in the ratio 1:3. Such ice crystals...” to “...deposited to the solid phase in the ratio 1:3. Such crystals...”

## Chapter 12

- P. 311. Equation 12.3. Correct equation to read

$$F_s = \left(\frac{R_p}{R_{es}}\right)^2 F_p = \left(\frac{R_p}{R_{es}}\right)^2 \varepsilon_P \sigma_B T_p^4$$

- P. 311, 3<sup>rd</sup> line from bottom, change 1.5 to 1.49598
- P. 312, 1<sup>st</sup> line, change “147” to “147.1”
- P. 312, 2<sup>nd</sup> line, change “152” to “152.1”
- P. 312, 5<sup>th</sup> line from top, change “3.3” to “3.4”
- P. 312, 6<sup>th</sup> and 7<sup>th</sup> lines from top, change “6.6” to “6.9” twice.
- P. 318. Change Jean Baptiste Fourier to Joseph Fourier and the date of his discovery from 1827 to 1824. Citation: “Remarques générales sur les températures du globe terrestre et des espaces planétaires, Annales de Chimie et de Physique, 27, 136-167, 1824.
- P. 321. Figure 12.8 caption should read “from 1751 to 1997” rather than “from 1860 to 1997”
- P. 321, 6<sup>th</sup> line from bottom, change “29.3” to “79.3”
- P. 332, 5<sup>th</sup> line from top, change “3.3” to “3.4”

P. 332, 6<sup>th</sup> line from top, change “6.6” to “6.9”

P. 332, Example 12.2, change “147” to “147.1”, change “152” to “152.1”, and change “149.5” to “149.6”

P. 349, first line, change “particulates” to “particles”

## **Appendix**

P. 354, change  $R_p$  from  $1.5 \times 10^{11}$  m to  $1.49598 \times 10^{11}$  m

## **References**

P. 363. Move the reference to McElroy M.B. et al. after that of McElroy J.L and Smith T.B.

P. 364. Change “Molina M.J. and Roland F.S.” to “Molina M.J. and Rowland F.S.”