

The Physics of Glaciers, Fourth Edition: Errata

Although I have tried to do a thorough job of identifying and correcting errors and ambiguities, the printed edition no doubt needs some correction. I intend to update this document occasionally as problems are spotted. – Kurt Cuffey

Last Updated June 3, 2010:

CHAPTER 2

- Page 18, Table 2.2, the reference “Gow (1968a)” should be “Gow (1968)”.

CHAPTER 4

- In equation 4.22 (page 128), the label for “Term B” should not use the same symbol “B” as the bed elevation. The equation should appear as:

$$\underbrace{\Delta M}_{\text{Term A}} = \Delta \cdot \underbrace{\int_{\mathcal{A}} \bar{\rho} [s - B] d\mathcal{A}}_{\text{Term B}} = \Delta t \cdot \underbrace{\left[\int_{\mathcal{A}} [\dot{b}_s + \dot{b}_e + \dot{b}_b] d\mathcal{A} - \dot{B}_c \right]}_{\text{Term C}}$$

- Page 99, eight lines up from bottom, the citation “(Bintanja 2001a).” should be “(Bintanja 2001).”
- Page 135, caption of Figure 4.16, the citation “Vaughan et al. 1999” should be “Vaughan et al. 1999b”.

CHAPTER 5

- Page 158, line 20, reference to “Hock and Holmgren 1995” should be “Hock and Holmgren 1996”.
- Page 168, 5-6 lines below section heading, the sentence “Even under similar conditions, their relative importance changes during the summer” should cite “Wallen (1948)”.
- Page 171, five lines below section heading, reference to “Untersteiner (1975)” should be “Untersteiner (1957)”.

CHAPTER 6

- The caption of Figure 6.2 (page 179) should credit “Nick Cobbing / Greenpeace” for the image.
- Page 201, 10 lines up from bottom, the citation “Liboutry 1983a” should be “Liboutry 1983”.

CHAPTER 7

- Page 237, first line of item 6, the citation “Robin (1976b)” should be “Robin (1976)”.
- Page 283, line 6, reference to “Huybrechts 1990a” should be “Huybrechts 1990”.

CHAPTER 8

- The grouping of Eqs. 8.22-8.25 (page 303) is unclear. They should read:

$$\tau_b = \tau_b^\circ \left[1 + \gamma_1 u_b^{1/p} \right] \quad (8.22)$$

$$\text{hard bed} \quad [\tau_b^\circ]^m = \frac{\gamma_2 u_b}{1 + \gamma_3 u_b / N} \quad (8.23)$$

$$\text{soft bed} \quad \tau_b^\circ = \tau_* = C + N \tan \varphi, \quad (8.24)$$

or Eq. 8.23 applies if $\tau_b^\circ < \tau_*$

$$\text{either case:} \quad N = P_i - P_w \quad (8.25)$$

- On pages 287, 293, and 370, the citations to “Thomas et al. (2004a)” should be “Thomas et al. (2004)”.
- On pages 300, 321, 322, 325, and 327, the citations to “van der Veen and Whillans (1989a)” should be “van der Veen and Whillans (1989)”.
- Page 343, first line below section heading, the citation to “Raymond (1971b)” should be “Raymond (1971)”.
- Pages 351,352, the citations to “Dahl-Jensen (1989a)” should be “Dahl-Jensen (1989)”

- Page 362, last line, the citation to “Echelmeyer et al. 1991b” should be to “Echelmeyer et al. 1991”.
- Page 366, lines 3-4, the citation “Raymond et al. (2001a)” should be “Raymond et al. (2001)”.
- Page 370, first line below section heading, the sentence “The following information ...” should include a citation to “Rignot (2002)”.

CHAPTER 9

- Page 427, line 4, reference to “Humbert et al. (2004)” should be “Humbert et al. (2005)”.

CHAPTER 10

- Page 437, nine lines up from bottom, the citation “(Boulton 1979)” should be “(Boulton et al. 1979)”

CHAPTER 11

- Concerning Section 11.5.2 (pages 500-503) on the tidewater glacier cycle: For an analysis of how feedback between thinning, flow, and basal effective pressure operates during tidewater glacier retreat, see *Pfeffer, W.T. (2007), A simple mechanism for irreversible tidewater glacier retreat, J. Geophys. Res. 112, F03S25.*
- Page 460, line 3, the citation “Liboutry 1971a” should be “Liboutry 1971”.
- Page 464, 7 lines below section heading, the citation “Nye (1958a)” should be “Nye (1958b)”.
- Page 480, 17 lines up from bottom, the citation “Budd (1979)” should be “Budd et al. (1979)”.
- Page 487, line 7, the citation “Nereson and Hindmarsh (1998)” should be “Nereson et al. (1998)”.

CHAPTER 12

- On page 539, the first full sentence below Eq. 12.2 should read:

The factor ξ in the gravitational force accounts for pressure gradients, if the ice surface does not parallel the bed; it is proportional to $\tan(\alpha - \beta)$ (see Section 8.5.3).

CHAPTER 13

- Page 557, second line up from bottom, the citation “(Weertman 1976b)” should be “(Weertman 1976)”.

CHAPTER 14

- Page 597, caption for Figure 14.8 should cite “Rignot et al. (2008a)” not “Rignot et al. (2008)”.
- On page 610, the last two sentences should read:

The preceding analyses illustrate the possibility of various sea-level rise scenarios. Such arguments must eventually be replaced with predictive models.

CHAPTER 15

- On page 638, fifteen lines up from the bottom, the phrase “variations are global and permit correlation of ice cores” should cite “Bender et al. (1994)”.
- Page 646, last line, citation to “(Holdsworth 1991)” should be “(Holdsworth et al. 1991)”.