

Known Corrections for the Second Edition  
The 3-D Global Spatial Data Model - CRC Press #K25616

(Current Correction Date – 26 March 2018)

Compiled by author, Earl F. Burkholder

1. Page 410 – October 4, 2017

Local frame standard deviations for station FINIAL are misstated. Correct values are to be derived from the following printout.

```
Finial - as in book          covariances - X      Y      Z  and      E      N      U
LAT (N)  32 16 56.219077 X: -1556406.8140 X  0.257E-03          E  0.293E-03
LON (E) -106 45 24.099451 Y: -5169185.0960 Y -0.720E-04 0.207E-03      N -0.812E-04  0.263E-03
EL HGT   1193.4880 M Z:  3387573.6400 Z -0.463E-04 0.778E-04 0.222E-03 U  0.345E-05 -0.334E-05 0.131E-03
```

From these data, the geodetic coordinates and local frame standard deviations are:

$$\begin{aligned}\phi &= 32^\circ 16' 56.''21908 \text{ N} & \pm 0.016 \text{ m} \\ \lambda &= 106^\circ 45' 24.''09945 \text{ W} & \pm 0.017 \text{ m} \\ h &= 1,193.488 \text{ m} & \pm 0.011 \text{ m}\end{aligned}$$

2. Page 468 – November 22, 2017:

At two places on this page, the reference Leick (E.5) should be Leick (E.6).

3. January 17, 2018, the following two corrections were found on the RPLS web page under comments by John Nolton dated September 6, 2017.

- A. Page 160 – the ellipsoid height for station REILLY should be 1,166.57 m.
- B. Page 161 – The east value of longitude is correct. The correct value for west longitude is  $121^\circ 47' 09.''353904 \text{ W}$ .

4. January 20, 2018, the following corrections were also provided by John Nolton.

- A. Page 161 – the value of phi sub 1 should be 16.993923.
- B. Page 161 – the PID for station “K 785” is NY0676
- C. Page 176 – John noted that the accuracy statement for the Puissant method is misleading. For information on the limitations of the Puissant method, see Geometric Geodesy Part I by Richard H. Rapp (1991) pages 104 and 119-120.
- D. Page 189 – the value of Z for New Orleans should be 3,174,026.4177 m.

5. John Nolton also offered following:
  - A. Page 55 – The statement about the square root of negative number being undefined is not mathematically correct. It would be better to say “requires the use of imaginary numbers” in place of “undefined.”
  - B. The term Conventional Terrestrial Pole (CTP) as appearing on pages xxvii, 4, 31, 95, 199, 210, 226, 414, and 475 is somewhat dated. A newer designation is “Celestial Intermediate Pole” (CIP) as described by Nichole Capitaine in IERS Technical Note 29, “Comparison of “Old” and “New” Concepts: The Celestial Intermediate Pole and Earth Orientation Parameters” which can be found with a web search.
6. March 2018 - Based upon Discussion and Closure of “Rigorous Estimation of Local Accuracies Revisited” as published in the ASCE Journal of Surveying Engineering, a section has been added to Appendix E. See [www.globalcogo.com/appendixE.pdf](http://www.globalcogo.com/appendixE.pdf).
7. Stay tuned for additional corrections.