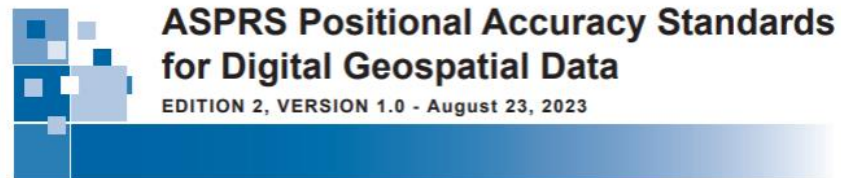


American Society for Photogrammetry and Remote Sensing (ASPRS) Positional Accuracy Standards for Digital Geospatial Data 2023



National Geospatial Advisory Committee Meeting
April 4, 2024

ASPRS Positional Accuracy Standards for Digital Geospatial Data 2023



Adopted by ASPRS Board of Directors on August 23, 2023

Positional Accuracy Standards Working Group

- Chair: Dr. Qassim Abdullah, Vice President and Chief Scientist, *Woolpert, Inc.*
- Member: Dr. Riadh Munjy, Professor of Geomatics Engineering, *California State University, Fresno*
- Member: Josh Nimetz, Senior Elevation Project Lead, *U.S. Geological Survey*
- Member: Michael Zoltek, National Geospatial Programs Director, *GPI Geospatial, Inc.*

Addendum I: General Best Practices and Guidelines

- Contributor: Michael Zoltek, National Geospatial Programs Director, *GPI Geospatial, Inc.*
- Contributor: Dr. Christopher E. Parrish, Associate Professor, *Oregon State University*
- Contributor: Dr. Qassim Abdullah, Vice President and Chief Scientist, *Woolpert, Inc.*
- Contributor: Martin Flood, Vice President for Special Projects, *GeoCue Group, Inc.*
- Contributor: Leo Z. Liu, Director of Mapping Solutions, *Inertial Labs, Inc.*

Addendum II: Best Practices and Guidelines for Field Surveying of Ground Control and Checkpoints

- Contributor: Jim Gillis, Survey Department Manager, *VeriDaaS Corporation*
- Contributor: David Kuxhausen, Survey Discipline Leader, *Woolpert, Inc.*
- Contributor: Jamie Gillis, Vice President, *GeoTerra Surveying & Mapping*
- Contributor: Kyle Ince, Civil Engineer, *Ohio Department of Transportation*
- Contributor: Jeff Irwin, Geographer, *U.S. Geological Survey*
- Contributor: Michael Zarlengo, Professional Land Surveyor, *Woolpert, Inc.*

ASPRS Positional Accuracy Standards for Digital Geospatial Data 2023

- Terms and definitions
- Specific requirements
 - Positional accuracy assessment of geospatial data products
 - Checkpoint accuracy and placement
 - Checkpoint density and distribution
 - Data internal precision (relative accuracy of Lidar and IFSAR data)
- Accuracy reporting
- Appendix A –Background and justification

ASPRS Positional Accuracy Standards for Digital Geospatial Data 2023

- Appendix B –Data accuracy and quality examples
- Appendix C – Accuracy testing and reporting guidelines
- Appendix D – Accuracy statistics and example
 - Focus is RMSE not in combination with 95% confidence

ASPRS Positional Accuracy Standards for Digital Geospatial Data 2023

- Addendum I: General best practices and guidelines
- Addendum II: Best practices and guidelines for field surveying of ground control and checkpoints
- Tables
 - Horizontal/vertical classes
 - Three-dimensional accuracy classes for geospatial data
 - Numerous other examples and accuracy requirements
- Summary of changes in Edition 2
 - Eliminate reference to the 95% confidence level as an accuracy measure

ASPRS Positional Accuracy Standards for Digital Geospatial Data 2023

- Summary of changes in Edition 2
 - Eliminate reference to the 95% confidence level as an accuracy measure
 - Relaxed the accuracy requirement for ground control and checkpoints
 - Required the inclusion of survey checkpoint accuracy when computing the accuracy of the final product
 - Removed the pass/fail requirement for Vegetated Vertical Accuracy (VVA) for lidar data
 - Increased the minimum number of checkpoints required for product accuracy assessment from 20 to 30
 - Limited the maximum number of checkpoints for large projects to 120
 - Introduced a new accuracy term: “three-dimensional positional accuracy”

New in Edition 2, V2 of the Standards

- Addition of four new addenda:
 - Mapping with Photogrammetry – Coming soon in Edition 2, v2 (2024)
 - Mapping with Lidar – Coming soon in Edition 2, v2 (2024)
 - Mapping with UAS – Coming soon in Edition 2, v2 (2024)
 - Mapping with Oblique Imagery – Coming soon in Edition 2, v2 (2024)
- Enhancement to addendum I (added a section on errors statistics)
- Enhancement to addendum II (added a section on expected accuracies from common surveying techniques)
- Adopting $RMSE_v$ for VVA
- Other minor changes and corrections.

Timelines for V2

- Public Comments Period –March 27 to April 26, 2024
- ASPRS Board Approval and Official Publication – Expected around May 15, 2024