



ADMINISTRATIVE RULES OF MONTANA

24.183.1109 GEOMATICS DEFINITIONS

- (1) "Accuracy" may refer to expressed accuracy or implied accuracy.
 - (a) "Expressed accuracy" means designating a numerical value for spatial accuracy or spatial relationships between objects or data.
 - (b) "Implied accuracy" means designating things such as equipment, equipment operating procedures, field procedures, analysis, methodologies, etc. to support a spatial accuracy expectation.
- (2) "Authoritative" means certifiably accurate, based on the expertise of one who is sanctioned by an established governmental authority.
 - (a) The following are examples of authoritative activities:
 - (i) the collection and evaluation of evidence with the intent to determine land boundary locations;
 - (ii) the collection, analysis, and evaluation of measurements, with the intent to certify the positional relationship of data sets to property boundaries, an elevation datum, or a geodetic control network;
 - (iii) the collection, analysis, and subsequent publication of positional information related to geodetic control; and
 - (iv) meeting or offering to meet a contractual spatial accuracy requirement, expressed or implied.
 - (b) Each of the authoritative activities identified as an example in (2)(a) must be performed by a professional land surveyor, with the following exceptions:
 - (i) activities that may be performed by a person other than a land surveyor, under the laws of this state or of the United States;
 - (ii) a geodesist recognized as an expert in the field of measurement science may perform activities described in (2)(a)(iii); and
 - (iii) a professional engineer may perform activities described in (2)(a)(iv).
- (3) "Certification" means a written assurance, warranty, guarantee, or official representation that some act has or has not been done, or some event has occurred, or some legal formality has been complied with. Persons or entities providing certifications do so utilizing specific authority, licensure, or jurisdiction granted by law. Certification requires special knowledge, expertise and/or authority, generally held by a responsible official. The following are examples of certification:

- (a) the certification that a professional land surveyor applies to a certificate of survey; and
 - (b) the certification of the locational accuracy of a Geographic Information System (GIS) product.
- (4) "Control" may refer to geodetic control, mapping control, or survey control.
- (a) "Geodetic control" means a set of permanently monumented control points, also commonly referred to as "stations," whose coordinates are established by geodetic surveying methodology.
 - (i) Geodetic control work may only be performed by a professional land surveyor or a federal agency designated to perform such surveys.
 - (ii) Geodetic control provides a common, consistent, and accurate reference system for establishing coordinates from which supplemental surveying, engineering, and mapping work is performed and to which any geographic data may be tied.
 - (iii) All National Spatial Data Infrastructure (NSDI) framework data and users' applications data require geodetic control to register spatial data.
 - (iv) The official national common reference system is designated the National Spatial Reference System (NSRS). Mapping and surveying works may be connected to the NSRS by tying new projects to previously established control points that are part of the NSRS. The fundamental geodetic control for the United States is provided through the National Oceanic and Atmospheric Administration's National Geodetic Survey (NGS) managed by NSRS. Geodetic control includes horizontal and vertical control monuments that are part of the NSRS (the NGS database).
 - (b) "Mapping control" means any horizontal or vertical coordinate position used to control maps that are not included in the definitions of geodetic or survey control.
 - (i) Mapping control provides the framework for the spatial placement of nonauthoritative products such as aerial photography, parcel mapping, and Geographic Information Systems (GIS).
 - (ii) Mapping control may or may not require a professional land surveyor, depending upon the intended use of the products.
 - (iii) Mapping control is typically, though not necessarily, based on an official reference system or geodetic datum.
 - (iv) Mapping control may be accomplished with various levels of accuracy and by various methods depending upon the intended use of the products.
 - (v) Control for georeferencing GIS data, some aerial photography, resource mapping, and inventory mapping may not require supervision by a professional land surveyor.
 - (vi) Control for aerial photography for use in functions included in the practice of land surveying or engineering surveying (i.e. boundary determination or engineering design) must be performed under the direct supervision of a professional land surveyor.
 - (c) "Survey control" means any horizontal or vertical coordinate position used to control fixed works of engineering or legal land boundaries. Survey control may only be performed by a

professional land surveyor (or a federal agency designated to perform such surveys). Survey control may or may not be based upon any official reference system or geodetic datum. Survey control may be based on assumed coordinates, or geodetic control, or property corners, or Public Land Survey System (PLSS) corners, or randomly selected points. Survey control may be accomplished in various levels of accuracy and by various methods depending upon the use of the finished product. The following are examples of survey control:

- (i) control for construction projects;
 - (ii) control for subdivision platting;
 - (iii) control for boundary surveys;
 - (iv) control created or tied for cadastral surveys for the Bureau of Land Management;
 - (v) control created or tied for geodetic ties for plats or surveys;
 - (vi) control created or tied for boundary surveys;
 - (vii) control created or tied for subdivision design or staking;
 - (viii) control created or tied for construction staking; and
 - (ix) control created or tied for American Land Title Association surveys.
- (5) "Geomatics" means the science and technology dealing with the character and structure of geospatial information, its methods of capture, organization, classification, qualification, analysis, management, display, and dissemination, as well as the infrastructure necessary for the optimal use of this information.
- (6) "Photogrammetry and remote sensing" means the art, science, and technology of obtaining reliable information from noncontact imaging and other sensor systems about the earth and its environment, and other physical objects and processes through recording, measuring, analyzing, and representation.
- (7) "Spatial data" means information that identifies the geographic location and characteristics of natural or constructed features and boundaries on the surface of the earth. This information may be derived from, among other things, remote sensing, mapping, and surveying technologies. Spatial data may also be known as geospatial data.

Authorizing statute(s): 37-1-131, 37-67-202, MCA

Implementing statute(s): 37-1-131, 37-67-101, 37-67-301, MCA

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