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Standard Specification for Content of Digital Geospatial Metadata[1]

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1. Scope

1.1 This specification covers the information content of metadata for a set of digital geospatial data. This specification provides a common set of terminology and definitions for concepts related to these metadata.

1.2 The use of the term "geographic information system" and its definition in this specification is not intended to introduce a standard definition.

1.3 This specification covers minimum content and processing requirements for geospatial metadata.

1.4 There are at least three categories of use for geospatial metadata: (1) to accompany data transfers as documentation, (2) internal, on-line documentation of processing steps and data lineage, and (3) as stand-alone data set synopses for use by spatial data catalogs, indexes, and referral services.

2. Referenced Documents

2.1 *ANSI Standards:*

ANSI X3.51 Representations of Universal Time, Local Time Differentials, and United States Time Zone Reference for Information Interchange[2]

ANSI X3.30 Representation for Calendar Date and Ordinal Date for Information Interchange[2]

ANSI Z39.50 Information Retrieval Service Protocol for Open Systems Interconnection[2]

2.2 *SDTS Standard:*

Federal Information Processing Standard 173 in SDTS 70-1[3]

2.3 *Military Standards:*

MIL-STD-600006 Vector Product Format[4]

MIL-A-89007 Military Specification ARC Digitized Raster Graphics (ADRG)[4]

3. Terminology

3.1 *abscissa*—the coordinate of a point in a plane cartesian coordinate system obtained by measuring parallel to the *x*-axis ("the '*x*' value").

3.2 *accuracy*—the degree of conformity of a measured or calculated value to some recognized standard or specified value. This concept involves the systematic and random error of an operation.

3.3 *altitude*—elevation above or below a reference datum, as defined in Federal Information Processing Standard 70-1. See also *elevation*.

3.4 *area*—a generic term for a bounded, continuous, two-dimensional object that may or may not include its boundary.

3.5 *area chain*—a chain that explicitly references left and right polygons and not start and end nodes. It is a component of a two-dimensional manifold.

3.6 *area point*—a representative point within an area usually carrying attribute information about that area.

3.7 *attribute*—a defined characteristic of an entity type (for example, composition).

3.8 *attribute value*—a specific quality or quantity assigned to an attribute (for example, steel), for a specific entity instance.

3.9 *chain*—a directed non-branching sequence of non-intersecting line segments or arcs bounded by nodes, or both, not necessarily distinct, at each end. Area chain, complete chain, and network chain are special cases of chain, and share all characteristics of the general case as defined above.

3.10 *complete chain*—a chain that explicitly references left and right polygons and start and end nodes. It is a component of a two-dimensional manifold.

3.11 *compound element*—a group of data elements and other compound elements. Compound elements represent higher-level concepts that cannot be represented by individual data elements.

3.12 *coordinates*—pairs of numbers expressing horizontal distances along orthogonal axes; alternatively, triplets of numbers measuring horizontal and vertical distances.

3.13 *data element*—a logically primitive item of data.

3.14 *data set*—a file or files that contain related geometric and attribute information; a collection of related data.

3.15 *depth*—perpendicular distance of an interior point from the surface of an object.

[1] This specification is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.01 on Surface and Subsurface Characterization.

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[2] Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

[3] Available from Spatial Data Transfer Standard, Washington Department of Commerce NIST, 11 W. 42nd St., 13th Floor, New York, NY 10036. (Supportive Terminology)

[4] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

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