

Part 3

1:100,000-Scale Digital Line Graphs

Standards for the Preparation of Digital Geospatial Metadata

Standards for the Preparation of Digital Geospatial Metadata
Part 3: 1:100,000-Scale Digital Line Graphs

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1. IDENTIFICATION INFORMATION

Identification information provides basic information about the data set, including the title, geographic area covered, currentness, and rules for using the data. Required elements of metadata are those necessary for identification of the data set and include citation, description, time period of content, status, spatial domain, keywords, access constraints, and use constraints. The identification information is a mandatory element of the data set metadata.

1.1 CITATION

The citation is the recommended reference to be used for the data set. The citation information is composed of the following elements:

originator - name of the organization that developed the data set

publication date - the date when the data set is published or otherwise made available for release

title - the name by which the data set is known

geospatial data presentation form - mode in which the geospatial data is represented. This element usually identifies types of cartographic data in hardcopy form; no reference is made to digital files or media in this element. Vector data digitized from a map would not have a presentation form if no particular means was intended by the originator.

publication information - publication detail for published data sets. For National Mapping Division (NMD) data, the publisher is always the U.S. Geological Survey and the publication place always appears as Reston VA.

publication place - name of the city (and State) where the data

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set was published or released

publisher - name of the organization that published the data set

1.1.1 Example

Identification_Information:

Citation:

Citation_Information:

Originator: *U.S. Geological Survey*

Publication_Date: archive date (year or year and month) in the Sales Data Base (SDB); format YYYY or YYYYMM

Title: the Geographic Cell Names Data Base designation for the 1:100,000-scale quadrangle and the State(s)

Publication_Information:

Publication_Place: *Reston VA*

Publisher: *U.S. Geological Survey*

1.2 DESCRIPTION

This element consists of an abstract, the purpose of the data set, and any optional supplemental information.

abstract - a brief narrative summary of the data set

purpose - a summary of the reasons why the data set was developed

supplementary information - additional descriptive information about the data set (included as needed)

1.2.1 Example

Abstract:

Digital line graph (DLG) data are digital representations, in vector format, of cartographic information. Map features are converted to digital form from maps and related sources.

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Intermediate-scale DLG data are derived from USGS 1:100,000-scale 30- by 60-minute quadrangle maps. If these maps are not available, Bureau of Land Management planimetric maps at a scale of 1:100,000 are used. Intermediate-scale DLG's are sold in five categories: (1) Public Land Survey System; (2) boundaries (3) transportation; (4) hydrography; and (5) hypsography. All DLG data distributed by the USGS are DLG - Level 3 (DLG-3), which means the data contain a full range of attribute codes, have full topological structuring, and have passed certain quality-control checks.

Purpose:

DLG's depict information about geographic features on or near the surface of the Earth, terrain, and political and administrative units. These data were collected as part of the National Mapping Program.

1.3 TIME PERIOD OF CONTENT

This element may be a single date/time, multiple dates/times, or a range of dates/times and a currentness reference.

single date/time - the means of encoding a single date and time
calendar date - the year representing the latest date of
information in the data set

range of dates/times - the means of encoding a range of dates and
times

beginning date - the first year (and optionally month or month
and day) of the event

ending date - the last year (and optionally month or month and
day) of the event

currentness reference - the basis on which content currentness is
determined; for example, ground condition

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1.3.1 Example

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: the latest date (year or year and month) present in the DLG-3 header (may be a photorevision date or photoinspection date); format YYYY or YYYYMM

Currentness_Reference: *ground condition*

1.4 STATUS

This element includes the progress, maintenance, and update frequency information.

progress - the state of the data set

maintenance and update frequency - the frequency with which changes and additions are made to the data set after the initial data set is completed

1.4.1 Example

Progress: *complete*

Maintenance_and_Update_Frequency: *irregular*

1.5 SPATIAL DOMAIN

This element shows the areal coverage of the data set. The limits are given in latitude-longitude values in decimal degrees. Longitudes in the Western Hemisphere are preceded by a minus (-) sign. For data sets that include a complete band of latitude around the Earth, the west bounding coordinate is assigned the value of minus (-)180.0 and the east bounding coordinate is assigned the value 180.0. Data sets with overedge coverage are referenced to the nominal tile coordinates in the NDCDB.

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bounding coordinates - the latitude and longitude values for the data set in the following order:

west bounding coordinate: the westernmost longitude of the data set

east bounding coordinate: the easternmost longitude of the data set

north bounding coordinate: the northernmost latitude of the data set

south bounding coordinate: the southernmost latitude of the data set

1.5.1 Example

Spatial_Domain:

Bounding_Coordinates: (do not include overedge)

West_Bounding_Coordinate: western longitude in decimal degrees

East_Bounding_Coordinate: eastern longitude in decimal degrees

North_Bounding_Coordinate: northern latitude in decimal degrees

South_Bounding_Coordinate: southern latitude in decimal degrees

1.6 KEYWORDS

Words or phrases summarizing an aspect of the data set. This element is composed of theme, place, stratum, and temporal keywords. The NMD uses only the theme and place subelements.

theme - subjects covered by the data set

theme keyword thesaurus - reference to a formally registered thesaurus or similar authoritative source of theme keywords

theme keyword - common-use word or phrase used to describe the content of the data set and the type of digital data

place - geographic locations covered by the data set

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place keyword thesaurus - reference to a formally registered thesaurus or a similar authoritative source of place keywords

place keyword - the geographic name of a location covered by a data set; usually US and the two letter abbreviation for the State(s). No reference is used for Canada and Mexico because the digital data outside the United States are not archived as part of the data set.

1.6.1 Example

Theme:

Theme_Keyword_Thesaurus: *none*

Theme_Keyword: *digital line graph*

Theme_Keyword: *DLG*

Theme_Keyword: the feature category in the file header

Place:

Place_Keyword_Thesaurus:

U.S. Department of Commerce, 1977, Countries, dependencies, areas of special sovereignty, and their principal administrative divisions (Federal Information Processing Standard 10-3): Washington, D.C., National Institute of Standards and Technology.

Place_Keyword: *US*

Place_Keyword_Thesaurus:

U.S. Department of Commerce, 1987, Codes for the identification of the States, the District of Columbia and the outlying areas of the United States, and associated areas (Federal Information Processing Standard 5-2): Washington, D.C., National Institute of Standards and Technology

Place_Keyword: the two-letter designation for the State(s) (each State has a separate Place_Keyword entry)

1.7 ACCESS CONSTRAINTS

Access constraints are the restrictions and legal prerequisites for

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accessing the data set, including constraints to protect privacy or intellectual property or limitations on obtaining the data set.

1.7.1 Example

Access_Constraints: *none*

1.8 USE CONSTRAINTS

This element sets out the restrictions and legal prerequisites for using the data set after access is granted.

1.8.1 Example

Use_Constraints:

None. Acknowledgment of the U.S. Geological Survey would be appreciated for products derived from these data.

1.9 DATA SET CREDIT

This element provides recognition of those who contributed to the data set.

1.9.1 Example

Data_Set_Credit: include Federal or State agencies, cooperators, or partnerships that contribute to the production of the data set

1.10 NATIVE DATA SET ENVIRONMENT

This element provides a description of the data set in the producer's processing environment, including items such as the name of the software and version, the computer operating system, file name (including host-, path- and filenames), and the data set size.

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1.10.1 Example

Native_Data_Set_Environment: include the software version and date,
hardware version and date, and the file size in bytes

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2. DATA QUALITY INFORMATION

Data quality information provides a general assessment of the quality of the data set. Recommendations on information to be reported and tests to be performed are found in "Spatial Data Quality," chapter 1, part 3 in U.S. Department of Commerce, 1992, Spatial Data Transfer Standard (SDTS) (Federal Information Processing Standard 173): Washington, D.C., National Institute of Standards and Technology.

2.1 ATTRIBUTE ACCURACY

Attribute accuracy is an assessment of the accuracy of the identification of entities and assignment of attribute values in the data set.

attribute accuracy report - the explanation of the accuracy of the identification of the entities and assignments of values in the data set and a description of the test used

2.1.1 Example

Attribute Accuracy Report:

Attribute accuracy is estimated to be 98.5 percent. Attribute accuracy was tested by one or more of the following methods:

- manual comparison of the source with hardcopy plots*
 - symbolized display of the digital line graph on an interactive computer graphic system*
 - selected attributes that could not be visually verified on plots or on screen were interactively queried and verified on screen*
- In addition, USGS processing software tested the attributes against a master set of valid attributes for the category; it also checked for selected valid attribute combinations and for valid attributes relative to topology and dimensionality. All attribute data conform to the attribute codes current as of the date of*

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digitizing.

2.2 LOGICAL CONSISTENCY REPORT

This element provides an explanation of the fidelity of the relationships in the data set and the tests used.

2.2.1 Example

Logical Consistency Report:

Topological requirements include the following: lines must begin and end at nodes, lines must connect to each other at nodes, lines do not extend through nodes, left and right areas are defined for each line element and are consistent throughout the file, and the lines representing the limits of the file (neatline) are free of gaps.

The tests of logical consistency were performed by USGS processing software. The neatline was generated by connecting the four corners of the digital file, as established during initialization of the digital file. All data outside the enclosed region were ignored and all data crossing these geographically straight lines were clipped at the neatline. Data within a specified tolerance of the neatline were snapped to the neatline. Neatline straightening aligned the digitized edges of the digital data with the generated neatline; that is, with the longitude/latitude lines in geographic coordinates. All internal areas were tested for closure using PROSYS.

2.3 COMPLETENESS REPORT

This element provides information about omissions, selection criteria, generalization, definitions used, and other rules used to derive the data set. Use the appropriate description for the revision status of the data set.

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2.3.1 Example

Completeness_Report: (use the appropriate note)

For Digital Revision Status = Not Revised

Data completeness reflects the content of the source quadrangle. Features may have been eliminated or generalized on the source graphic, because of scale and legibility constraints.

For Digital Revision Status = Limited Update

This file has undergone limited update digital revision. The file contains only (1) those features that are photoidentifiable on monoscopic source, supplemented with limited ancillary source, and (2) those features, present on the original source quadrangle, that cannot be reliably photoidentified but that are not considered particularly prone to change.

For Digital Revision Status = Standard Update

This file has undergone standard update digital revision. The data completeness of this file meets NMD standards for feature content.

2.4 POSITIONAL ACCURACY

The element provides an assessment of the accuracy of the positions of spatial objects in both horizontal and vertical positions.

horizontal positional accuracy - an estimate of accuracy of the horizontal positions of the spatial objects

horizontal positional accuracy report - an explanation of the accuracy of the horizontal coordinate measurements and a description of the tests used. Use the appropriate description for the revision status of the data set.

vertical positional accuracy - the estimate of accuracy of the vertical position in the data set

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vertical positional accuracy report - an explanation of the accuracy of the vertical coordinate measurements and a description of the tests used. Use the appropriate description based on the data set theme keyword and the revision status.

2.4.1 Example

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report: (use appropriate note)

For Digital Revision Status = Not Revised:

Horizontal positional accuracy is based upon the use of USGS source quadrangles that are compiled to meet National Map Accuracy Standards (NMAS). NMAS horizontal accuracy requires that at least 90 percent of points tested are within 0.02 inch of the true position. The digital data are estimated to contain a horizontal positional error of less than or equal to 0.003 inch standard error in the two component directions relative to the source quadrangle. Comparison to the graphic source is used as a control to assess digital positional accuracy. Cartographic offsets may be present on the graphic source, because of scale and legibility constraints. Digital map elements require edge alignment between data sets. Data along each partitioned edge internal to the original 100,000-scale quadrangle and data along the quadrangle edge are tested against the adjacent data set using USGS processing software; tests check for positional accuracy between data sets within a 0.02 inch tolerance. Features with like dimensionality that are within the tolerance are adjusted by moving the feature equally in both data sets. Features outside the tolerance are not moved. All disconnects are identified by edge-matching flags that document the mismatch.

For Digital Revision Status = Limited Update or Standard Update:

This file has undergone digital revision. Accuracy of these

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digital data meets the positional accuracy specifications in the National Map Accuracy Standards (NMAS). Digital map elements require edge alignment between data sets. Data along each partitioned edge internal to the original 100,000-scale quadrangle and data along the quadrangle edge are tested against the adjacent data set using the USGS processing software; tests check for positional accuracy between data sets within a 0.02 inch tolerance. Features with like dimensionality that are within the tolerance are adjusted by moving the feature equally in both data sets. Features outside the tolerance are not moved. All disconnects are identified by edge-matching flags that document the mismatch.

Vertical_Positional_Accuracy:

Vertical_Positional_Accuracy_Report: (use appropriate note)

(For Hypsography and Hydrography Only:)

For Digital Revision Status = Not Revised:

Vertical positional accuracy is based upon the use of USGS source quadrangles that are compiled to meet the National Map Accuracy Standards (NMAS). The NMAS vertical accuracy requires that at least 90 percent of well-defined points tested be within one-half contour interval of the correct value. Comparison to the graphic source is used as a control to assess digital positional accuracy.

For Digital Revision Status = Limited Update or Standard Update:

This file has undergone digital revision. Accuracy of these digital data meets the positional accuracy specifications in the National Map Accuracy Standards (NMAS).

2.5 LINEAGE

This element contains information about the events, parameters, and source data that constructed the data set and about the responsible parties.

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source information - list of sources and a short discussion of the information contributed by each

source citation - reference for a source data set (includes the source citation abbreviation, originator, publication date, title, geospatial data presentation form, and publication information)

source scale denominator - the denominator of the representative fraction for the map scale

type of source media - medium of the source data set

source time period of content - time period(s) for which the source data set corresponds to ground condition (includes single or multiple date(s)/time(s) and calendar date)

source citation abbreviation - short-form alias for the source citation

source contribution - brief statement identifying the information contributed by the source to the data set

process step - information about a single event

process description - an explanation of the event and related parameters. Use the appropriate description based on the revision status of the data set.

source used citation abbreviation - the source citation abbreviation (alias) of each data set used in the processing step

process date - the date the event was completed

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2.5.1 Example

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Originator: *U.S. Geological Survey* or other Federal agency

Publication_Date: the latest or only date in the lower right corner under the map title (may be a photorevision or photoinspection date); format YYYY

Title: the Geographic Cell Names Data Base designation for the source quadrangle and the State(s)

Geospatial_Data_Presentation_Form: *map*

Publication_Information:

Publication_Place: *Reston VA*

Publisher: *U.S. Geological survey*

Source_Scale_Denominator: *100000*

Type_of_Source_Media: *stable base material*

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: same as used for publication date

Source_Currentness_Reference: *ground condition*

Source_Citation_Abbreviation: *MAP1*

Source_Contribution: *spatial and attribute information*

Process_Step:

Process_Description:

For Digital Revision Status = Not Digitally Revised:

This digital line graph was digitized from the USGS source quadrangle by either the National Mapping Division, a cooperater, or a contractor. The digital data were produced by one of the following methods:

- scanning a stable-based copy of the graphic materials. The scanning process captured the digital data at a scanning resolution of at least 0.001 inch; the resulting raster data

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were vectorized and then attributed on an interactive editing station.

- scanning the paper map. The scanning process captured the digital data at a scanning resolution of at least 0.001 inch; the resulting raster data were vectorized and then attributed on an interactive editing station.

- scanning a stable-based copy of the graphic materials. The resulting raster data were then manually digitized and attributed on an interactive editing station. The resolution of the digital data is at least 0.001 inch.

- scanning the paper map. The resulting raster data were then manually digitized and attributed on an interactive editing station. The resolution of the digital data is at least 0.001 inch.

- manually digitizing from a stable-based copy of the graphic material using a digitizing table to capture the digital data at a resolution of at least 0.001 inch; attribution was performed either as the data were digitized or on an interactive edit station after the digitizing was completed.

- manually digitizing from the paper map using a digitizing table to capture the digital data at a resolution of at least 0.001 inch; attribution was performed either as the data were digitized or on an interactive edit station after the digitizing was completed.

The determination of the DLG production method was based on various criteria, including feature density, feature symbology, and availability of production systems. Four control points corresponding to the four corners of the quadrangle were used for registration during data collection. An eight-parameter projective transformation was performed on the coordinates used in the data collection and editing systems to register the digital data to the internal coordinates used in USGS processing software, and a four-parameter linear transformation was performed from the USGS processing software internal coordinates to Universal

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Transverse Mercator (UTM) grid coordinates. The DLG data were checked for position by one or more of the following processes:

- comparing plots of the digital data to the graphic source*
- comparing the digital data to the digital raster scan*

DLG data classification was checked by at least one of the following processes:

- comparing plots of the digital data to the graphic source*
- comparing the digital data to the digital raster scan*

Source_Used_Citation_Abbreviation: *MAP1*

Process_Date: the date (year or year and month) the DLG was entered into the NDCDB; format YYYY or YYYYMM

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3. SPATIAL DATA ORGANIZATION INFORMATION

Spatial data organization information identifies the mechanism used to represent spatial information in a data set. This category of metadata describes point, vector, and raster objects. The elements dealing with direct spatial references are required. Elements dealing with indirect spatial references are applicable only to certain DLG-3 categories. Point, vector, and raster object information is considered optional in the "Content Standards for Digital Geospatial Metadata" but is used by the USGS to provide further information to data users.

3.1 INDIRECT SPATIAL REFERENCE

This element provides the names of types of geographic features or other means by which locations are referenced in the data set. Add this element only for Public Land Survey System (PLSS) and boundary categories.

3.1.1 Example

Indirect_Spatial_Reference:

For Public Land Survey System:

U.S. Department of the Interior, Bureau of Land Management: U.S. Public Land Survey System

For Boundaries:

U.S. Department of Commerce, 1977, Countries, dependencies, areas of special sovereignty, and their principal administrative divisions (Federal Information Processing Standard 10-3): Washington, D.C., National Institute of Standards and Technology

U.S. Department of Commerce, 1987, Codes for the identification of the States, the District of Columbia and the outlying areas of The United States, and associated areas (Federal Information Processing Standard 5-2): Washington, D.C., National Institute of

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Standards and Technology

U.S. Department of Commerce, 1990, Counties and equivalent entities of The United States, its possessions, and associated areas (Federal Information Processing Standard 6-4): Washington, D.C., National Institute of Standards and Technology

3.2 DIRECT SPATIAL REFERENCE METHOD

This element defines the type of data in the data set. Data types are point, vector, or raster.

3.2.1 Point and Vector Object Information

This element provides the types and numbers of vector or nongridDED point spatial objects in the data sets.

SDTS terms description - point and vector object information using the terminology and concepts from "Spatial Data Concepts," part 1, chapter 2, in U.S. Department of Commerce, 1992, Spatial Data Transfer Standard (SDTS) (Federal Information Processing Standard 173): Washington, D.C., National Institute of Standards and Technology. (The reference to SDTS is only to provide a set of terminology for the point and vector objects.)

SDTS point and vector object type - this element provides the names of point and vector spatial objects used to locate zero-, one-, and two-dimensional spatial locations in the data set. Points are zero-dimensional objects, vectors are one-dimensional objects, and chains and polygons are two-dimensional objects. Object types are used by NMD for DLG data as follows:

entity point - point used for identifying the location of point features or areal features collapsed to a point, such as towers, buildings, or places

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area point - representative point within an area usually carrying attribute information about the area

node, planar graph - a zero-dimensional object that is a topological junction of two or more chains, or an end point of a chain, represented as though it occurs on a planar surface

complete chain - a chain that explicitly references left and right polygons and start and end nodes

GT-polygon composed of chains - an area that is two dimensional with associated geometry and topology bounded by chains that enclose one and only one aggregate spatial object

universe polygon composed of chains - the object that defines the part of the universe that is outside the "covered area" and completes the adjacency relationships of the perimeter chains

void polygon composed of chains - the polygon that defines part of the two-dimensional area bounded by other chains that is excluded from the interior of the universe polygon

point and vector object count - the total number of points or vectors occurring in the data set

3.2.1.1 Example

Direct_Spatial_Reference_Method: *Vector*

Point_and_Vector_Object_Information:

SDTS_Terms_Description: (repeat as needed to reference all the different object types and counts in the data set)

SDTS_Point_and_Vector_Object_Type: use the relevant terms for the data set

Point_and_Vector_Object_Count: use counts provided by processing statistics

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4. SPATIAL REFERENCE INFORMATION

Spatial reference information provides the description of the reference frame for and the means of encoding coordinates in the data set.

4.1 HORIZONTAL COORDINATE SYSTEM DEFINITION

The horizontal coordinate system definition provides the reference frame or system from which linear or angular distances are measured to locate the position a point occupies in the data set. The element provides information about the latitude/longitude resolution, map projection, and horizontal datum.

planar - the quantities of distances, or distances and angles, that define the position of a point on a reference plane to which the surface of the Earth has been projected

grid coordinate system - a plane-rectangular coordinate system usually based on, and mathematically adjusted to, a map projection so that geographic positions can be readily transformed to and from plane coordinates. Systems used by the NMD include Universal Transverse Mercator (UTM) and State Plane Coordinate System (SPCS) with zone identification.

planar coordinate information - information about the coordinate system developed on the planar surface

planar coordinate encoding method - the means used to represent horizontal positions; the NMD uses coordinate pairs for point and vector data and uses rows and columns for grid coordinate system data sets

coordinate representation - the method of recording the position of a point by measuring its distance from perpendicular reference axes for coordinate pairs or row and column methods; values for the abscissa and ordinate

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resolution are given in planar distance units of measure (meters for data sets in coordinate pairs and grid coordinate systems and arc-seconds for data sets in geographic coordinate systems)

planar distance units - units of measure used for distances

geodetic model - parameters for the shape of the Earth; parameters include horizontal datum name (North American Datum of 1927 or North American Datum of 1983), ellipsoid name, semi-major axis, and the denominator of the flattening ratio

4.1.1 Example

Horizontal_Coordinate_System_Definition:

Planar:

Grid_Coordinate_System:

Grid_Coordinate_System_Name: *Universal Transverse Mercator*

Universal_Transverse_Mercator:

UTM_Zone_Number: use the UTM zone for the data set

Transverse_Mercator:

Scale_Factor_at_Central_Meridian: *0.9996*

Longitude_of_Central_Meridian: use the central meridian for the zone the data set falls in

Latitude_of_Projection-Origin: *0.0*

False_Easting: *500000*

False_Northing: *0.0*

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: *coordinate pair*

Coordinate_Representation:

Abscissa_Resolution: *2.54*

Ordinate_Resolution: *2.54*

Planar_Distance_Units: *meters*

Geodetic_Model:

Horizontal_Datum_Name: *North American Datum of 1927*

Ellipsoid_Name: *Clark 1866*

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Semi-major_Axis: 6378206.4

Denominator_of_Flattening_Ratio: 294.98

4.2 VERTICAL COORDINATE SYSTEM DEFINITION

This element provides information on the reference frame or system from which vertical distances (altitudes or depths) are measured.

altitude system definition - the reference frame or system from which altitudes (elevations) are measured. This element is used only for hypsography and hydrography DLG-3 categories.

altitude datum name - the name of the reference surface from which altitudes are measured

altitude resolution - minimum distance between two adjacent altitude values in altitude distance units; for DLG's, primary, secondary, and supplemental contour intervals

altitude distance units - units in which altitudes are measured

altitude encoding method - the means used to encode the altitudes

depth system definition - the reference system from which depths are measured. The information includes the depth datum name, depth resolution, depth distance units, and depth encoding method. This information is applicable only to data sets that contain bathymetric data.

depth datum name - the surface of reference from which depths are measured

depth resolution - the minimum distance between adjacent depth values; primary and supplementary bathymetric interval for DLG's containing bathymetry

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depth distance units - the units in which depths are recorded

depth encoding method - the means used to encode depths

4.2.1 Example

Vertical_Coordinate_System_Definition:

Altitude_System_Definition:

[for hypsography and hydrography)

Altitude_Datum_Name: *National Geodetic Vertical Datum of 1929*

Altitude_Resolution: largest or only primary contour interval

Altitude_Resolution: In areas of abrupt contrasts in relief, two primary contour intervals may be used in a data set. This element is used for the second primary contour interval.

Altitude_Resolution: supplemental contour interval

Altitude_Distance_Units: meters

Altitude_Encoding_Method: *attribute values*

Depth_System_Definition: (bathymetry only; use appropriate datum)

Depth_Datum_Name: *mean lower low water*

Depth_Resolution: primary bathymetric contour interval

Depth_Resolution: supplemental bathymetric contour interval

Depth_Distance_Units: *meters*

Depth_Encoding_Method: *attribute values*

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5. ENTITY AND ATTRIBUTE INFORMATION

This element provides information about the information content of the data set, including entities types, their attributes, and the domains from which attribute values can be assigned.

5.1 OVERVIEW DESCRIPTION

This element contains a summary of, and citation to the detailed description of, the information content of the data set. The NMD is using the summary overview description for digital products.

5.1.1 Entity and Attribute Overview

This element provides a detailed summary of the information contained in a data set, including the attribute codes and the format of the attribute code for DLG's. The summary for raster files specifies the size and range of acceptable values for the data set. For gridded data sets, this element specifies the size of the integer value and the range of acceptable values.

5.1.1.1 Example

Overview_Description:

Entity_and_Attribute_Overview:

DLG-3 attribute codes are used to describe the physical and cultural characteristics of DLG node, line, and area elements. Attribute codes are used to reduce redundant information, provide enough reference information to support integration with larger data bases, and describe the relationships between cartographic elements. Each DLG element has one or more attribute codes composed of a three-digit major code and a four-digit minor code. For example, in the 1:100,000-scale DLG data, the line attribute code 050 0412 has a major code (050), meaning hydrography, with a minor code (0412), meaning stream.

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5.1.2 Entity and Attribute Detail Citation

This element provides the name of the actual reference standard for the attribute codes and includes an FTP anonymous site Internet address if the standards are available in soft copy. This reference is to the standards in use at the time the data set was created.

5.1.2.1 Example

Entity and Attribute Detail Citation:

*U.S. Department of the Interior, U.S. Geological Survey, 1987
Digital Line Graphs from 1:100,000-Scale Maps--Data Users Guide
2; Reston, Va.*

*U.S. Department of the Interior, U.S. Geological Survey, 1990,
Standards for Digital Line Graphs, Part 3: Attribute Codes:
Reston, Va.*

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6. DISTRIBUTION INFORMATION

This element provides information about the distributor and means of obtaining the data set. The NMD Data and Information Delivery activity is responsible for maintaining and updating the information in this section.

6.1 DISTRIBUTOR

This element provides information about the distributor from whom the data set may be obtained.

6.1.1 Example

Distributor:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: *Earth Science Information Center, U.S.
Geological Survey*

Contact_Address:

Address_Type: *mailing address*

Address: *507 National Center*

City: *Reston*

State_or_Province: *VA*

Postal_Code: *20192*

Contact_Voice_Telephone: *1 800 USA MAPS*

Contact_Voice_Telephone: *1 800 872 6277*

Contact_TDD/TDY_Telephone: *703 648 4119*

Contact_Facsimile_Telephone: *703 648 5548*

Contact_Electronic_Mail_Address: *esicmail@usgs.gov*

Hours_of_Service: *0800-1600 Monday-Friday*

Contact_Instructions:

In addition to the ESIC at the above address, there are other ESIC offices throughout the country. A full list of these offices is at:

http://mapping.er.usgs.gov/esic/esic_index.html

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6.2 RESOURCE DESCRIPTION

This element gives the name by which the distributor knows the data set.

6.2.1 Example

Resource_Description: *DLG intermediate scale*

6.3 DISTRIBUTION LIABILITY

This element contains the statement of liability assumed by the distributor for the data set.

6.3.1 Example

Distribution_Liability:

Although these data have been processed successfully on a computer system at the U.S. Geological Survey (USGS), no warranty expressed or implied is made by the USGS regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. The USGS will warrant the delivery of this product in computer-readable format and will offer appropriate adjustment of credit when the product is determined unreadable by correctly adjusted computer input peripherals or when the physical medium is delivered in damaged condition. Requests for adjustment of credit must be made within 90 days from the date of this shipment from the ordering site.

6.4 STANDARD ORDER PROCESS

This element details the common ways in which the data set can be obtained or received, related instructions, and fee information. It concerns data in digital form and provides digital transfer information, digital transfer options, offline and online ordering options, fees, and ordering instructions. The format version date

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is the date of the version in use when the data set is created.

6.4.1 Example

Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information:

Format_Name: *SDTS*

Format_Version_Date: *199207*

Format_Specification: *Topological Vector Profile*

Digital_Transfer_Option:

Online_Option:

Computer_Contact_Information:

Network_Address:

Network_Resource_Name:

*http://edcwww.cr.usgs.gov/glis/hyper/guide/100kdlgfig
/states.html*

Network_Resource_Name:

ftp://edcftp.cr.usgs.gov/pub/data/DLG/100K/

Offline_Option:

Offline_Media: *CD-ROM*

Recording_Capacity:

Recording_Density: *650*

Recording_Density_Units: *megabytes*

Recording_Format: *ISO 9660*

Compatibility_Information:

This CD-ROM can be used with all computer operating systems that support CD-ROM as a logical storage device. All text files on the disc are in ASCII format. Data files are in ASCII or binary format.

Digital_Form:

Digital_Transfer_Information:

Format_Name: *DLG*

Format_Version_Date: *198805*

Format_Specification: *Optional*

Digital_Transfer_Option:

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Online_Option:

Computer_Contact_Information:

Network_Address:

Network_Resource_Name:

*http://edcwww.cr.usgs.gov/glis/hyper/guide/100kdlgfig
/states.html*

Network_Resource_Name:

ftp://edcftp.cr.usgs.gov/pub/data/DLG/100K

Offline_Option:

Offline_Media: *CD-ROM*

Recording_Capacity:

Recording_Density: *650*

Recording_Density_Units: *megabytes*

Recording_Format: *ISO 9660*

Compatibility_Information:

This CD-ROM can be used with all computer operating systems that support CD-ROM as a logical storage device. All text files on the disc are in ASCII format. Data files are in ASCII or binary format.

Offline_Option:

Offline_Media: *3480 Cartridge tape*

Recording_Capacity:

Recording_Density: *250*

Recording_Density_Units: *megabytes*

Recording_Format: *ASCII; available unlabeled or with ANSI-standard labels; available block sizes are multiples of 80 characters ranging from 8,000 to 32,720 characters.*

Offline_Option:

Offline_Media: *8-mm cassette tape*

Recording_Capacity:

Recording_Density: *4.5 (high)*

Recording_Density: *2.3 (low)*

Recording_Density_Units: *gigabytes*

Recording_Format: *ASCII; available unlabeled or with*

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ANSI-standard labels; available block sizes are multiples of 80 characters ranging from 8,000 to 32,720 characters.

Fees:

The online copy of the data set (when available electronically) can be accessed without charge. Fees are subject to change. Call 1-800-USA-MAPS for current prices.

Ordering_Instructions:

Intermediate-scale DLG data are sold in 30-minute units that correspond to the east or west half of USGS 30- by 60-minute 1: 100,000-scale topographic quadrangle maps. Each 30-minute unit is produced and distributed as four 15- by 15-minute cells, except in high-density areas, where the 15-minute cells may be divided into four 7.5-minute cells. The transportation category of data includes major transportation systems collected in three separate overlays labeled (1) Roads and Trails, (2) Railroads, and (3) Pipelines, Transmission Lines, and Miscellaneous Transportation Features. Although collected separately, the three files are distributed as a single unit. Orders for the transportation category for a given area will include all three files.

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7. METADATA REFERENCE INFORMATION

This element provides information on the currentness of the metadata information and the responsible party. The information includes metadata creation date, contact, and metadata standard and version. Metadata reference information is a mandatory element of the data set metadata.

7.1 METADATA DATE

This element gives the date the metadata were created or last updated.

7.1.1 Example

Metadata_Date: the date (year and month) the data set is entered or updated in the Sales Data Base (SDB) at EROS Data Center; format YYYYMM

7.2 METADATA CONTACT

This element provides the name of the party responsible for the metadata information.

7.2.1 Example

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: *U.S. Geological Survey*

Contact_Address:

Address_Type: *mailing address*

Address: *Box 25046, Building 810*

Address: *Denver Federal Center, MS 504*

City: *Denver*

State_or_Province: *CO*

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Postal_Code: 80225-0046

Contact_Voice_Telephone: 303 202 4200

Contact_Facsimile_Telephone: 303 202 4188

Contact_Electronic_Mail_Address: *esic@rmmcl.cr.usgs.gov*

Contact_Instructions:

This is the contact for information on DLG's for the following features: hydrography, PLSS, boundaries, and hypsography.

Contact_Organization: U.S. Geological Survey

Contact_Address:

Address_Type: *mailing address*

Address: *1400 Independence Road, MS 231*

City: *Rolla*

State_or_Province: *MO*

Postal_Code: *65401-2602*

Contact_Voice_Telephone: 573 308 3500

Contact_Facsimile_Telephone: 573 308 3615

Contact_Electronic_Mail_Address: *esic@mcdgs01.cr.usgs.gov*

Contact_Instructions:

This is the contact for information on DLG's for transportation features.

7.3 METADATA STANDARD NAME

This element always refers to the FGDC standard in use at the time the data set metadata were created.

7.3.1 Example

Metadata_Standard_Name: *Content Standards for Digital Geospatial Metadata*

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7.4 METADATA STANDARD VERSION

This element is the version of the FGDC standard in use at the time the metadata were created.

7.4.1 Example

Metadata_Standard_Version: 19940608