Part 4
1:2,000,000-Scale Digital Line Graphs

Standards for the Preparation of Digital Geospatial Metadata

U.S. Department of the Interior
U.S. Geological Survey
National Mapping Division

Standards for the Preparation of Digital Geospatial Metadata
Part 4: 1:2,000,000-Scale Digital Line Graphs

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Standards for the Preparation of Digital Geospatial Metadata
Part 4: 1:2,000,000-Scale Digital Line Graphs

1.   IDENTIFICATION INFORMATION

          Identification information provides basic information about the data
          set, including the title, geographic area covered, currentness, and
          rules for acquiring or 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:

            originator - name of an organization or individual 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 are 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 NMD data the publisher is always the U.S. Geological
            Survey and the publication place always appears Reston VA.

              publication place - name of the city (and State) where the data
              set was published or released

publisher - name of the individual or organization that published the data set

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

1.1.1   <u>Example</u>

Identification_Information:
  Citation:
  Citation_Information:
    Originator: *U.S. Geological Survey*
    Publication_Date: *1995*
    Title: two-letter FIPS State designation+2MIL+two-letter designation for the overlay; for example, CA2MILHY (category abbreviations are BD boundaries, HY hydrography, MS manmade features, MT miscellaneous transportation, PL Public Land Survey System, RD roads and trails, and RR railroads.)
    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

supplemental information - additional optional information about the data set (included as needed)

1.2.1   <u>Example</u>

Abstract:

The *1:2,000,000-scale digital line graph (DLG) data files contain selected base categories of cartographic data in digital form. The Boundaries category of data includes political and administrative boundaries. The Hydrography category of data includes flowing water, water bodies, wetlands, and related features. The Manmade Features category of data includes populated places. The Transportation category of data includes major transportation systems collected in three separate subcategories: (1) Roads and Trails, (2) Railroads, and (3) Pipelines, Transmission Lines, and Miscellaneous Transportation Features. The data files were originally derived from the sectional maps of the 1970 National Atlas of the United States of America. The files have been updated from a variety of sources and revised to meet the latest DLG standards. The U.S. Public Land Survey System (PLSS) category of data containing Land Grants and subdivisions of the public lands was not included in the original Atlas. The PLSS data files were compiled from various sources for this version of the 1:2,000,000-scale DLG data sets. The digital data are useful for the production of cartographic products, and the data are structured to support the analytical functions of geographic information systems.*

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.

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

    times

      Beginning date - the year representing the earliest date of information in the data set

      Ending date - the year representing the latest date of information in the data set

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

1.3.1   <u>Example</u>

Time_Period_of_Content:
  Time_Period_Information:
    Range_of_Dates/Times:
      Beginning_Date: *1970* (the date of the original maps in the National Atlas); *1992* (for PLSS data)
      Ending_Date: *1994* (the latest date of information included in the digital files)
    Currentness_Reference: *publication date*

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   <u>Example</u>

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. For data
sets that include a complete band of latitude around the Earth, the
west bounding coordinate is assigned the value of -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.

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   <u>Example</u>

Spatial_Domain:
  Bounding_Coordinates:
    West_Bounding_Coordinate: west longitude for the State data set
      in decimal degrees
    East_Bounding_Coordinate: east longitude for the State data set
      in decimal degrees
    North_Bounding_Coordinate: north latitude for the State data
      set in decimal degrees
    South_Bounding_Coordinate: south latitude for the State data
      set 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

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, the two-letter abbreviation, and the FIPS
code 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   <u>Example</u>

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

1.7 ACCESS CONSTRAINTS

Access constraints are the restrictions and legal prerequisites for 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   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 and version of the software, the computer operating system, file name (including host-, path- and filenames), and the data set size.

1.9.1   <u>Example</u>

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

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   <u>Example</u>

        Attribute_Accuracy_Report:
        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 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   <u>Example</u>

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. All internal areas were tested for closure using USGS processing software.

2.3   COMPLETENESS REPORT

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

2.3.1   <u>Example</u>

Completeness_Report: (use the appropriate note)
  For Boundary category:
  Data completeness generally reflects the content of the original source graphic, with revision to incorporate information from more recent ancillary sources and to meet current DLG standards. The Boundaries category includes political boundaries and administrative boundaries. Boundaries of Federal lands are shown,

generalized to follow section lines. Most Federal lands are collected with a minimum area of 640 acres. Bureau of Land Management (BLM) land is collected with a minimum size of 320 acres, but as for other Federal lands, the boundaries are generalized to follow certain section lines. Attribute codes in the data file link the data to a text file containing State and County names.

For Hydrography category:

Data completeness generally reflects the content of the original source graphic, with revision to incorporate information from more recent ancillary sources and to meet current DLG standards. The Hydrography category includes flowing water, water bodies, wetlands, and related features.

For Manmade Features category:

Data completeness generally reflects the content of the original 1:2,000,000-scale sectional map, with revision to incorporate information from more recent ancillary sources and to meet current DLG standards. The Manmade Features category includes built-up areas and populated places, with information on population. Capitals and county seats are also identified. Attribute codes in the data file link the data to a text file containing populated place names and population, where available.

For Transportation category:

Data completeness generally reflects the content of the original source graphic, with revision to incorporate information from more recent ancillary sources and to meet current DLG standards. The Roads and Trails category includes major highways. Railroads: Data completeness generally reflects the content of the original source graphic, with revision to incorporate information from more recent ancillary sources and to meet current DLG standards. Pipelines, Transmission Lines, and Miscellaneous Transportation Features: Data completeness generally reflects the content of the original source graphic, with revision to incorporate information

from more recent ancillary sources and to meet current DLG standards. The Pipelines, Transmission Lines, and Miscellaneous Transportation category contains only airports and the Alaska pipeline. Attribute codes in the data file link the data to a text file containing airport names.

For U.S. Public Land Survey System category:
Data completeness reflects the content of the compilation source(s), with content adjusted to be appropriate to scale and to meet current DLG standards. The U.S. Public Land Survey System category contains Land Grants and subdivisions of the public lands to the Township and Range level. Attribute codes in the data file link the data to a text file containing land grant names.

2.4   POSITIONAL ACCURACY

The element provides an assessment of the accuracy of the positions of spatial objects in horizontal position.

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 depending on the revision status of the data set.

2.4.1   <u>Example</u>

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report: (all data categories except PLSS)
This file has undergone digital revision. Comparison to a graphic source or image source is used as control to assess digital positional accuracy. Cartographic offsets may be present on graphic sources, because of scale and legibility

constraints.   Data have been vertically aligned between categories of data.   Digital map elements require edge alignment between data sets; data along the data limit line are manually checked against the data limit line for the adjacent data set.   Features with like dimensionality, and with or without like attribution, are adjusted by moving the feature to join.

Horizontal_Positional_Accuracy_Report: (PLSS only)

Comparison to a graphic source or image source is used as control to assess digital positional accuracy. Cartographic offsets may be present on graphic sources, because of scale and legibility constraints. Data have been vertically aligned between categories of data. Digital map elements require edge alignment between data sets; data along the data limit line are manually checked against the data limit line for the adjacent data set.   Features with like dimensionality, and with or without like attribution, are adjusted by moving the feature to join.

2.5   LINEAGE

This element contains information about the events, parameters, and source data used to construct the data set and about the responsible parties.

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 for 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

2.5.1   Example

Lineage:
  Source_Information:
    Source_Citation:
      Citation_Information:
        Originator: *U.S. Geological Survey*
        Publication_Date: *1970*
        Title: the name of the sectional sheet from the 1970 National Atlas
        Geospatial_Data_Presentation_Form: *map*
        Publication_Information:

Publication_Place: *Reston VA*

Publisher: *U.S. Geological Survey*

Source_Scale_Denominator: *2000000*

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*

 Source_Information:

  Source_Citation:

  Citation_Information:

   Originator: *Bureau of the Census*

   Publication_Date: *1990*

   Title: *unknown*

   Geospatial_Data_Presentation_Form: *map*

   Publication_Information:

    Publication_Place: *Washington, D.C.*

    Publisher: *Bureau of the Census*

   Other_Citation_Details:

    This source citation references sources used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

  Source_Scale_Denominator: *various*

  Type_of_Source_Media: *various*

  Source_Time_Period_of_Content:

   Time_Period_Information:

    Single_Date/Time:

     Calendar_Date: *1990*

   Source_Currentness_Reference: *publication date*

  Source_Citation_Abbreviation: *REVBND1*

  Source_Contribution: *spatial and attribute information to*

update boundary data

Source_Information:

Source_Citation:

Citation_Information:

Originator: *various Federal agencies*

Publication_Date: *1990*

Title: *unknown*

Geospatial_Data_Presentation_Form: *map*

Publication_Information:

Publication_Place: *various*

Publisher: *various*

Other_Citation_Details:

This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

Source_Scale_Denominator: *various*

Type_of_Source_Media: *various*

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Calendar_Date: *1990*

Source_Currentness_Reference: *publication date*

Source_Citation_Abbreviation: *REVBND2*

Source_Contribution: *spatial and attribute information to update boundary data*

Source_Information:

Source_Citation:

Citation_Information:

Originator: *various Federal, State, local, and private agencies*

Publication_Date: *1990*

Title: *unknown*

Geospatial_Data_Presentation_Form: *map*

Publication_Information:

      Publication_Place: *various*

      Publisher: *various*

   Other_Citation_Details:

   This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

  Source_Scale_Denominator: *various*

  Type_of_Source_Media: *various*

  Source_Time_Period_of_Content:

   Time_Period_Information:

    Single_Date/Time:

     Calendar_Date: *1990*

   Source_Currentness_Reference: *publication date*

  Source_Citation_Abbreviation: *REVHYD1*

  Source_Contribution: *spatial and attribute information to update hydrography data*

Source_Information:

  Source_Citation:

  Citation_Information:

   Originator: *U.S. Geological Survey*

   Publication_Date: *1990*

   Title: *Geographic Names Information System*

   Publication_Information:

    Publication_Place: *Reston VA*

    Publisher: *U.S. Geological Survey*

   Other_Citation_Details:

   This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

  Type_of_Source_Media: *magnetic tape*

  Source_Time_Period_of_Content:

   Time_Period_Information:

    Single_Date/Time:

Calendar_Date: *1990*

Source_Currentness_Reference: *publication date*

Source_Citation_Abbreviation: *REVMMF1*

Source_Contribution: *spatial and attribute information to update manmade features data*

Source_Information:

Source_Citation:

Citation_Information:

Originator: *Bureau of the Census*

Publication_Date: *1990*

Title: *unknown*

Publication_Information:

Publication_Place: *various*

Publisher: *Bureau of the Census*

Other_Citation_Details:

This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

Source_Scale_Denominator: *various*

Type_of_Source_Media: *CD-ROM*

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time: *1990*

Source_Currentness_Reference: *publication date*

Source_Citation_Abbreviation: *REVMMF2*

Source_Contribution: *spatial and attribute information to update manmade features data*

Source_Information:

Source_Citation:

Citation_Information:

Originator*:* *Department of Transportation*

Publication_Date: *1993*

Title: *various*

Publication_Information:

                               Publication_Place: *various*

                               Publisher: *Department of Transportation*

                        Other_Citation_Details:

                          This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

                    Source_Scale_Denominator: *various*

                    Type_of_Source_Media: *CD-ROM*

                    Source_Time_Period_of_Content:

                      Time_Period_Information:

                        Single_Date/Time:

                          Calendar_Date: *1993*

                      Source_Currentness_Reference: *publication date*

                  Source_Citation_Abbreviation: *REVPTM1*

                  Source_Contribution: *spatial and attribute information to update Pipelines, Transmission lines, and Miscellaneous Transportation features data*

              Source_Information:

              Source_Citation:

                Citation_Information:

                  Originator: *U.S. Geological Survey*

                  Publication_Date: *various;* format YYYY or YYYYMM

                  Title: *various*

                  Geospatial_Data_Presentation_Form: *map*

                  Publication_Information:

                    Publication_Place: *Reston VA*

                    Publisher: *U.S. Geological Survey*

                  Other_Citation_Details:

                    This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

              Source_Scale_Denominator: *various*

              Type_of_Source_Media: *various*

        Source_Time_Period_of_Content:

       Time_Period_Information:

        Single_Date/Time:

          Calendar_Date: *various;* format YYYY or YYYYMM

        Source_Currentness_Reference: *publication date*

      Source_Citation_Abbreviation: *REVPTM2*

      Source_Contribution: *spatial and attribute information extracted from large- and intermediate- scale USGS maps to update Pipelines, Transmission lines, and Miscellaneous Transportation features data*

    Source_Information:

      Source_Citation:

      Citation_Information:

        Originator: *Department of Transportation*

        Publication_Date: *1993*

        Title: *various*

        Publication_Information:

          Publication_Place: *various*

          Publisher: *Department of Transportation*

        Other_Citation_Details:

         This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

      Source_Scale_Denominator: *various*

      Type_of_Source_Media: *CD-ROM*

      Source_Time_Period_of_Content:

       Time_Period_Information:

        Single_Date/Time:

          Calendar_Date: *1993*

        Source_Currentness_Reference: *publication date*

      Source_Citation_Abbreviation: *REVRRS1*

      Source_Contribution: *spatial and attribute information to update railroad data*

    Source_Information:

     Source_Citation:

      Citation_Information:

       Originator: *Department of Transportation*

       Publication_Date: *1994*

       Title: *various*

       Publication_Information:

        Publication_Place: *various*

        Publisher: *Department of Transportation*

       Other_Citation_Details:

        This source citation references a source used to revise the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

      Source_Scale_Denominator: *various*

      Type_of_Source_Media: *CD-ROM*

      Source_Time_Period_of_Content:

       Time_Period_Information:

        Single_Date/Time:

         Calendar_Date: *1994*

       Source_Currentness_Reference: *publication date*

      Source_Citation_Abbreviation: *REVRAT1*

      Source_Contribution: *spatial and attribute information to update roads and trails data*

    Source_Information:

     Source_Citation:

      Citation_Information:

       Originator: *U.S. Geological Survey*

       Publication_Date: *various;* format YYYY or YYYYMM

       Title: *various*

       Geospatial_Data_Presentation_Form: *map*

       Publication_Information:

        Publication_Place: *Reston VA*

        Publisher: *U.S. Geological Survey*

       Other_Citation_Details:

        This source citation references a source used to revise

the 1:2,000,000-scale series. Individual files within the series may or may not have been altered as a result of this source.

Source_Scale_Denominator: *100000*

Type_of_Source_Media: *various*

Source_Time_Period_of_Content:

  Time_Period_Information:

    Single_Date/Time:

      Calendar_Date: *various;* format YYYY or YYYYMM

    Source_Currentness_Reference: *publication date*

Source_Citation_Abbreviation: *REVPTM2*

Source_Contribution: *spatial and attribute information extracted from intermediate-scale USGS maps to update roads and trails data*

 Source_Information:

  Source_Citation:

   Citation_Information:

    Originator: *Bureau of Land Management*

    Publication_Date: *1990*

    Title: unknown

    Geospatial_Data_Presentation_Form: *map*

    Publication_Information:

      Publication_Place: *various*

      Publisher: *various*

    Other_Citation_Details:

      This source citation references a source used to compile the PLSS data for the 1:2,000,000-scale series.

  Source_Scale_Denominator: *various*

  Type_of_Source_Media: *various*

  Source_Time_Period_of_Content:

   Time_Period_Information:

    Single_Date/Time:

      Calendar_Date: *1990*

    Source_Currentness_Reference: *publication date*

  Source_Citation_Abbreviation: *REVPLSS1*

       Source_Contribution: *spatial and attribute information to compile Public Land Survey System data*

    Source_Information:

    Source_Citation:

     Citation_Information:

      Originator: *U.S. Geological Survey*

      Publication_Date: *various;* format YYYY or YYYYMM

      Title: unknown

      Geospatial_Data_Presentation_Form: *map*

      Publication_Information:

       Publication_Place: *Reston VA*

       Publisher: *U.S. Geological Survey*

      Other_Citation_Details:

       This source citation references a source used to compile the PLSS data for the 1:2,000,000-scale series.

    Source_Scale_Denominator: *100000; 500000*

    Type_of_Source_Media: *stable base material*

    Source_Time_Period_of_Content:

     Time_Period_Information:

     Range_of_Dates/Times:

      Beginning_Date: earliest date (year or year and month) of source; format YYYY or YYYYMM

      Ending_Date: the latest date (year or year and month) of source; format YYYY or YYYYMM

     Source_Currentness_Reference: *ground condition*

    Source_Citation_Abbreviation: *REVPLSS2*

    Source_Contribution: *spatial and attribute information used to compile Public Land Survey System data*

    Source_Information:

    Source_Citation:

     Citation_Information:

      Originator: *Alaska Department of Natural Resources*

      Publication_Date: *1993*

      Title: *unknown*

      Geospatial_Data_Presentation_Form: *map*

              Publication_Information:

                  Publication_Place: *various*

                  Publisher: *various*

              Other_Citation_Details:

                This source citation references a source used to compile the PLSS data for the 1:2,000,000-scale series.

            Source_Scale_Denominator: *various*

          Type_of_Source_Media: *various*

          Source_Time_Period_of_Content:

           Time_Period_Information:

             Single_Date/Time:

                Calendar_Date: *1993*

           Source_Currentness_Reference: *publication date*

         Source_Citation_Abbreviation: *REVPLSS3*

         Source_Contribution: *spatial and attribute information to compile Public Land Survey System data*

       Process_Step:

       Process_Description: (for all categories except PLSS)

       This file was originally digitized by the National Mapping Division from the sectional maps contained in 'The National Atlas of the United States of America' published by the USGS in 1970. At the time of digitization in the late 1970's, most of the information contained in the maps was updated, using the latest available source materials. The digital data were produced by manually digitizing from stable base copy of the graphic material using a digitizing table with a resolution of 0.001 inch and an absolute accuracy of 0.003 to 0.005 inch. The digital data were checked for position by visually comparing proof plots with the graphic source. The digital data were checked for classification by manually checking proof plots against code listings.

       This file has undergone digital revision. The digital revision uses ancillary source, with no field verification.

Process_Description: (for PLSS only)

This file was digitized by the National Mapping Division from scanned map materials from either USGS or BLM sources. The digital data were produced by manually digitizing from a raster display with a positional accuracy of 0.00001 inch. The processing software retained precision of 0.001 inch. The digital data were checked for position by visually comparing proof plots with the graphic source. The digital data were checked for classification by manually checking proof plots against code listing.

The digital compilation uses ancillary source with no field verification.

Source_Used_Citation_Abbreviation: (use the appropriate Source_Used_Citation_Abbreviation for the data category)

MAP1, REVBND1, REVBND2, REVHYD1, REVHYD2, REVMMF1, REVMMF2, REVPTM1, REVPTM2, REVRRS1, REVRRS2, REVRAT1, REVRAT2, REVPLSS1, REVPLSS2, REVPLSS3

Process_Date: *1995*

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 name of types of geographic features or
other means by which locations are referenced in the data set. Add
this element only for the appropriate data sets.

3.1.1   <u>Example</u>

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
  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 name
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, and chains
and polygons are two-dimensional objects. Object types used by
NMD for DLG data are 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

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

node, planar graph - a zero-dimension 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 for each object type

3.2.1.1   Example

Direct_Spatial_Reference:
  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 program statistics

4.   SPATIAL REFERENCE INFORMATION

          Spatial reference information describes 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

              map projection - the systematic representation of all or part
              of the surface of the Earth on a plane or developable surface

              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
                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, ellipsoid name, semi-major axis, and the denominator of the flattening ratio

4.1.1   Example

Horizontal_Coordinate_System_Definition:
  Planar:
    Map-Projection:
      Map_Projection_Name: *Albers Conical Equal Area*
      Albers_Conical_Equal_Area
        Standard_Parallel: *29.5* for conterminous US, 0*8.0* for Hawaii, or *55.0* for Alaska (1st standard parallel)
        Standard_Parallel: *45.5* for conterminous US, *18.0* for Hawaii, or *65.0* for Alaska (2nd standard parallel)
        Longitude_of_Central_Meridian:*-096.0* for conterminous US, -*157.0* for Hawaii, or *-154.0* for Alaska
        Latitude_of_Projection_Origin: *23.0* for conterminous US, *03.0* for Hawaii, or *50.0* for Alaska
        False_Easting: *0.0*
        False_Northing: *0.0*
    Planar_Coordinate_Information:
      Planar_Coordinate_Encoding_Method: *coordinate pair*
      Coordinate_Representation:
        Abscissa_Resolution: *50.80*
        Ordinate_Resolution: *50.80*
      Planar_Distance_Units: *meters*
  Geodetic_Model:
    Horizontal_Datum_Name: *North American Datum 1927*
    Ellipsoid_Name: *Clark 1866*
    Semi-major_Axis: *6378206.4*
    Denominator_of_Flattening_Ratio: *294.98*

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 a 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:
             DLG3 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 a larger data base, 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, with the 1:2,000,000-scale
             DLG data, the line attribute code 050 0412 has a major code
             (050), meaning hydrography, with a minor code (0412), meaning

stream.

5.1.2   <u>Entity and Attribute Detail Citation</u>

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.

The attributes described here refer only to the revised 1:2,000,000-scale data sets. The original digital data sets used a different set of attribute codes.

5.1.2.1   Example

Entity_and_Attribute_Detail_Citation:
   U.S. Department of the Interior, U.S. Geological Survey, 1990, 1:2,000,000-Scale Digital Line Graphs, Data Users Guide 3, Reston, Va.

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

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   <u>Example</u>

            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 address above, 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

6.2   RESOURCE DESCRIPTION

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

6.2.1   <u>Example</u>

Resource_Description: *DLG small scale*

6.3   DISTRIBUTION LIABILITY

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

6.3.1   <u>Example</u>

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, and related instructions and fee information. It addresses 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

is the date of the version in use when the data set was 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:
                   ftp://edcftp.cr.usgs.gov/pub/data/DLG/2M/(State units
                   only)
          Digital_Form:
            Digital_Transfer_Information:
             Format_Name: *DLG*
             Format_Version_Date: *198805*
             Format_Specification: *Optional*
            Digital_Transfer_Option:
             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 ranging from 80
                 to 32,000 bytes.
             Offline_Option:
              Offline_Media: *8mm 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 ANSI-standard labels; available block sizes are multiples of 80 ranging from 80 to 32,000 bytes.

    Offline_Option:

      Offline_Media: *CD-Recordable*

      Recording_Capacity:

        Recording_Density: *650*

        Recording_Density_Units: *megabytes*

      Recording_Format:

        ISO 9660; the files are placed in a flat directory on the CD with naming conventions that are ISO 9660 Level 1 compliant (DOS 8.3)

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:

  The CD-ROM contains data for all States except Alaska, organized by State. Four text files are distributed with each 1:2,000,000-scale State file. The file containing Land Grant names and the file containing Federal Information Processing Standard (FIPS) codes for States and counties are both master files that include information for the entire United States. The remaining two files contain State-specific information on airport names and on populated place names and population.

  Data for individual States can be ordered on 3480 cartridge tapes, 8mm cassette tapes, or on CD-R (CD-Recordable) media.

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 that the metadata were created or last
          updated.

7.1.1   Example

          Metadata_Date: the date (year and month) the data set was entered 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: *507 National Center*
                    City: *Reston*
                    State_or_Province: *VA*
                    Postal_Code: *20192*
                    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*

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   <u>Example</u>

Metadata_Standard_Name: *Content Standards for Digital Geospatial
Metadata*

7.4   METADATA STANDARD VERSION

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

7.4.1   <u>Example</u>

Metadata_Standard_Version: *19940608*