National Mapping Program
Technical Instructions

Part 5
Digital Raster Graphics

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 5: Digital Raster Graphics

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Standards for the Preparation of Digital Geospatial Metadata
Part 5: Digital Raster Graphics

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; scanned images of maps have
          a presentation form of map.

          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 as 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

1.1.1 Example

Identification_Information:
  Citation:
   Citation_Information:
     Originator: *U.S. Geological Survey*
     Publication_Date: the date (year or year and month) the metadata file for the DRG is completed; format YYYY or YYYYMM. This date is used because the creation of the metadata is considered the final step in the production of a DRG.
     Title: the Geographic Cell Names Data Base (GCNDB) designation for the map (names in the GCNDB may be different from the name on the source graphic)
     Geospatial_Data_Presentation_Form: *map*
     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 intentions with which the data set was developed

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

1.2.1   Example

Abstract:

The digital raster graphic (DRG) is a raster image of a scanned USGS topographic or planimetric map, including the collar information, georeferenced to the UTM grid.

Purpose:

A DRG is useful as a source or background layer in a GIS, as a means to quality assurance on other digital products, and as a source for the collection and revision of vector data. DRG's can also be merged with other digital data; for example, DEM's or DOQ's, to produce a hybrid digital file.

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

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

1.3.1   Example

Time_Period_of_Content:
  Time_Period_Information:
   Single_Date/Time:
     Calendar_Date: The latest date (year) in the lower right corner under the map name; format YYYY. (This may be the map date, the photorevision date, or the photoinspection date.)
   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   <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. 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.

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 or map collar on
  the graphic)
    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.
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 and the two-letter State abbreviation

1.6.1   <u>Example</u>

Theme:
  Theme_Keyword_Thesaurus: *none*
  Theme_Keyword: *digital raster graphic*
  Theme_Keyword: *DRG*
  Theme_Keyword: *topographic map*
  Theme_Keyword: *planimetric map*
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: *CN* (use only if DRG includes a part of Canada)
  Place_Keyword: *MX* (use only if DRG includes a part of Mexico)
  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) (use a separate entry for each State shown in the map title)
  Place_Keyword_Thesaurus: *Geographic Cell Names Data Base* (add only if the map has a different name than the one in the GCNDB)
  Place_Keyword: (use only if the map has a different name than the one used for the Title)

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   <u>Example</u>

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. For DRG's containing data <u>provided</u> by Canada or <u>carrying</u> the Canadian copyright note, add the information below about the copyright note.

1.8.1   <u>Example</u>

Use_Constraints:
   Acknowledgment of the U.S. Geological Survey would be appreciated for products derived from these data.

   This DRG contains data provided by Canada which is copyrighted by Canada and may not be distributed without express consent of Natural Resources Canada, 4th Floor, 615 Booth Street, Ottawa, Ontario, Canada K1A 0E9.

1.9   DATA SET CREDIT

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

1.9.1   <u>Example</u>

Data_Set_Credit: include States or agencies that contributed 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
and version of the software, the computer operating system, file
name including host-, path- and filenames, and the data set size.

1.10.1   <u>Example</u>

Native_Data_Set_Environment: include the software version and date,
hardware operating system, 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:
          *The DRG is an 8-bit color image that uses a color palette to ensure
          uniform colors throughout a particular DRG series. All DRG's within
          a series must have the same red-green-blue (RGB) values. Attributes
          inherent in the symbology of the source graphic remain the same in
          the DRG.*

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: *not applicable*

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:
  The digital raster graphic is a faithfully reproduced digital image of the original source map. Some color differences may be detected between the source graphic and the DRG because of the RGB values assigned that particular color. The intent is to re-create those colors as closely as possible. Data completeness for digital raster graphic files reflects the content of the source graphic.

2.4   POSITIONAL ACCURACY

This 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.

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

  vertical positional accuracy report - an explanation of the accuracy of the vertical coordinate measurements and a description of the tests used.

2.4.1   <u>Example</u>

Positional_Accuracy:

  Horizontal_Positional_Accuracy:

   Horizontal_Positional_Accuracy_Report:

      *Although the datum of the published map is retained, in order
      to be consistent with other USGS digital data, this image is
      cast on the UTM and may therefore be INCONSISTENT with the
      credit note on the image collar. DRG's meet the accuracy
      standards of the source map scale only in the area of the DRG
      that falls within the neatline of the source map, excluding
      insets.   Overedge areas fall outside the transformation
      boundary area (map neatline). As a result, areas outside the
      neatline and beyond the control point extent can exhibit
      anomalies or discrepancies. These anomalies will also appear
      in the map inset area and in the map collar.*

  Vertical_Positional_Accuracy:

   Vertical_Positional_Accuracy_Report: *Refer to the DRG collar for
   information about vertical positional accuracy.*

2.5   LINEAGE

          This element contains information about how the data set was
          constructed, including the events, parameters, and source data.

            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

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   <u>Example</u>

Lineage:
 Source_Information:
  Source_Citation:
   Citation_Information:
     Originator: *U.S. Geological Survey*
     Publication_Date: the latest date (year or year and month) in the lower right corner under the map title (may be a photoinspection or photorevision date); format YYYY or YYYYMM
     Title: the Geographic Cell Names Data Base designation for the source quadrangle
     Geospatial_Data_Presentation_Form: *map*
     Publication_Information:
       Publication_Place: *Reston VA*

Publisher: *U.S. Geological Survey*

Source_Scale_Denominator: use the appropriate scale denominator for the source graphic

Type_of_Source_Media: *paper*

Source_Time_Period_of_Content:

  Time_Period_Information:

    Single_Date/Time:

    Calendar_Date: the latest date (year or year and month) under the map title (may be revision or photoinspection date); format YYYY or YYYYMM

  Source_Currentness_Reference: *ground condition*

Source_Citation_Abbreviation: *MAP1*

Source_Contribution: *spatial and attribute information*

Process_Step:

Process_Description:

The production procedures, instrumentation, hardware, and software used in the collection of standard DRG products vary depending on systems used at the contract, cooperator, or USGS production sites. The majority of DRG data sets are acquired through Government partnerships and contracts. The process step describes, in general, the process used in the production of standard DRG data sets.

1. Production of a DRG begins with the scanning of a paper 7.5-minute topographic map (MAP1) on a high-resolution scanner. Scanning resolutions range from 500 to 1,000 dpi with the output file between 160-300 Mb in size.

2. Removal of screens (descreening) and color quantization to reduce the number of colors also take place during the scanning phase.

3. The raw scan file is then transformed and georeferenced using UTM coordinates of the sixteen 2.5-minute grid ticks, which are obtained using the in-house produced program COORDAT and stored in a ground control file. Those sixteen 2.5-minute

ticks are interactively visited and assigned their respective UTM coordinates. USGS program XSHAPES4 then performs a piecewise linear rubber sheet transformation.

4. An output resolution of 2.4 meters (8.2 feet) is chosen in order to resample the file to 250 dpi.

5. The image file is converted to a TIFF image (version 6.0) and further reduced by converting the file to a run length encoded PackBit compression(type 32773).

6. The color palette of the compressed DRG is then standardized by replacing the original RGB values assigned during the scanning process with standard RGB value combinations using the TIFFREMAP program produced in-house.

7. Create the metadata file for the DRG.

8. Prior to being archived, the DRG undergoes the following quality assurance procedures:

a. The color index values of each DRG are checked to ensure that the RGB combinations are consistent with the standardized color palette.

b. All DRG files are inspected to ensure that they are geometrically consistent with normal map presentation.

c. Selected DRG's are checked to ensure that data elements in the DRG metadata file correspond to the map collar information and to the information in the associated image file.

d. Selected DRG's are checked for georeferencing accuracy by comparing the General Cartographic Transformation Package calculated value of latitude and longitude tick marks with

corresponding tick intersections in the DRG image.

e. Transformations are checked on selected DRG's by comparing the positions of well-defined points, such as UTM grid intersections in the graphic product, with the corresponding image points in the DRG.

USGS DRG production specifications are available on request from the National Mapping Division and Mid-Continent Mapping Center by contacting:

Rolla-ESIC
U.S. Geological Survey
1400 Independence Rd., MS231
Rolla, MO 65401-2602
Phone 573 308 3577
Facsimile 573 308 3652
E-mail to esic@mcdgs01.cr.usgs.gov
World Wide Web: http://mcmcweb.cr.usgs.gov/drg/

Source_Used_Citation_Abbreviation: *MAP1*
Process_Date: the date (year or year and month) the DRG metadata file is created; format YYYY or YYYYMM

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 are considered optional in the "Content Standards for
          Digital Geospatial Metadata" but are used by the USGS to provide
          further information to data users.

3.1   DIRECT SPATIAL REFERENCE METHOD

          This element defines the type of data in the data set. The raster
          object information supplied about the data set includes the raster
          object type, row, and column counts.

3.1.1   <u>Example</u>

          Direct_Spatial_Reference_Method: *raster*
            Raster_Object_Information:
              Raster_Object_Type: *pixel*
              Row_Count: the maximum number of pixels along the ordinate (y)
              axis
              Column_Count: the maximum number of pixels along the abscissa
              (x) axis

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

    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 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   <u>Example</u>

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: *row and column*
      Coordinate_Representation: use the appropriate values
        Abscissa_Resolution: *2.4* for 1:24,000 scale, *2.5* for
        1:25,000 scale, *6.44* for 1:63,360 scale (Alaska), *10.1* for
        1:100,000 scale, or *25.4* for 1:250,000 scale
        Ordinate_Resolution: (same as Abscissa_Resolution)
      Planar_Distance_Units: *meters*
   Geodetic_Model: (use the appropriate datum)
     Horizontal_Datum_Name:

        North American Datum of 1927 or *North American Datum of 1983*

Ellipsoid_Name: *Clarke 1866* or *GRS 80*

Semi-major_Axis: *6378206.4* or *6378137.0*

Denominator_of_Flattening_Ratio: *294.98* or *298.257*

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   <u>Entity and Attribute Overview</u>

> 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:
   *Each raster entity or pixel contains a color index from 0
   through 12 referencing a color palette of RGB values from 0
   through 255 in which the standard colors used in the DRG are
   defined.*

USGS DRG Color Palette

Digital Number	Color	Red	Green	Blue
0	Black	0	0	0
1	White	255	255	255

2	Blue	0	151	164
3	Red	203	0	23
4	Brown	131	66	37
5	Green	201	234	157
6	Purple	137	51	128
7	Yellow	255	234	0
8	Light Blue	167	226	226
9	Light Red	255	184	184
10	Light Purple	218	179	214
11	Light Grey	209	209	209
12	Light Brown	207	164	142

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.

5.1.2.1 Example

Entity_and_Attribute_Detail_Citation:
   U.S. Department of the Interior, U.S. Geological Survey, 1995,
   Standards for Digital Raster Graphics, 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 can 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 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   Example

Resource_Description: *DRG*

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, and related instructions and fee information. It addresses data in digital form and provides digital transfer information, digital transfer option, offline and online ordering options, fees, and ordering instructions.

6.4.1   <u>Example</u>

    Standard_Order_Process:
      Digital_Form:
        Digital_Transfer_Information:
          Format_Name: *TIFF*
          Format_Version_Number: 6.0
          File_Decompression_Technique: *PackBit*
        Digital_Transfer_Option:
          Offline_Option:
            Offline_Media: *CD-ROM*
            Recording_Format:
              ISO 9660; DRG image files with corresponding metadata
              files
          Compatibility_Information:
            This CD-ROM can be used with all computer operating systems
            that support CD-ROM as a logical storage device.
      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:
        In the conterminous United States the DRG's are distributed in
        1-degree blocks. The CD-ROM contains the sixty-four 7.5-minute
        quadrangles, the two 1:100,000-scale quadrangles, and the full
        1:250,000-scale quadrangle in which the block occurs.

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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 is the date that the metadata were created or last updated.

7.1.1   <u>Example</u>

            Metadata_Date: the date (year and month) the data set is 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   <u>Example</u>

            Metadata_Contact:
              Contact_Information:
                Contact_Organization_Primary:
                  Contact_Organization: *U.S. Geological Survey*
                    Contact_Address:
                      Address_Type: *mailing address*
                      Address: *1400 Independence Road*
                      City: *Rolla*
                      State_or_Province: *MO*
                      Postal_Code: *65401-2602*
                    Contact_Voice_Telephone: *573 308 3500*
                    Contact_Facsimile_Telephone: *573 308 3615*

Contact_TTD/TTY_Telephone: *573 308 2716*

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

7.3   METADATA STANDARD NAME

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

7.4.1   <u>Example</u>

Metadata_Standard_Version: *19940608*