Best Practices Guide to Creating Metadata Files for Scholars GeoPortal:

a project of the Ontario Council of University Libraries (OCUL)



**Revised Version**

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**Core Subset of Metadata Elements**

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Preface

The guidelines in this document have been prepared for the OCUL Geospatial and Health Informatics Cyberinfrastructure Project (aka Scholars GeoPortal).

The document’s primary concern is with geospatial data (i.e. that which references data to a location on the surface of the Earth), and which has a limited geographic extent (i.e. is restricted to a defined territory).

This document covers the basics of metadata and provides a set of detailed guidelines for creating metadata in compliance with the NAP: ISO 19115:2003 version 2009.

We would like to acknowledge the work on metadata elements by:

Grace Welch (Librarian, Retired, University of Ottawa)

Members of the Association of Canadian Map Libraries and Archives, Bibliographic Control

Committee

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Comité d’utilisateurs de données géospatiales de l’Université Laval

Introduction

This document is a set of guidelines for the creation, maintenance and quality management of metadata for geospatial datasets. It provides a general introduction to the principles and concepts of metadata for data resources. Metadata creation requires the use of a standard (NAP: ISO 19115:2003 version 2009), an editor (e.g. GeoNetwork), and procedures for inputting, editing and updating.

From a user's perspective, metadata is required to provide information about an institution's data holdings and enable users to find, evaluate and use that data, thereby increasing its value.

Metadata from data providers may be at a general level, providing basic information about the datasets. The metadata files may be enhanced by addition of keywords and place names. In addition, distribution and copyright information may be adjusted to reflect institutional use restrictions.

**Purpose of metadata files**

Metadata are the fuel for data discovery. Metadata provide information about the data resource, to better understand it and make good use of it.

Data portals and other data discovery services enable users to find, evaluate and use data, thereby increasing its value.

Geospatial data are data containing a locational element relative to the Earth. Geospatial data contains spatial references which may take the form of coordinates, for example in latitude and longitude, or references to geographic names, for example street data.

There are a range of uses for metadata: for discovery, for evaluation and for use:

Discovery

The user aims to find out what available resources are potentially able to satisfy a specified set of requirements. This is typically what a search engine can process, using basic search criteria to identify the available resources corresponding more or less to the user requirements and providing to the users basic metadata (name, content description, geographic area of applicability, etc.) about the candidate resources.

Evaluation

The user needs to go deeper in the metadata (e.g. looking at the quality of the information) in order to ascertain whether a candidate resource fits for the intended purpose.

Use

The user has selected a candidate resource, but needs to access it and to configure a system or software to process it.

**Metadata standards**

There are many metadata standards in existence. These have been produced at different times by different bodies for different purposes. The main ones that are relevant to geospatial datasets are:

Dublin Core

This was originally developed by librarians for cataloguing information resources. It uses free-text fields, which makes automatic searching difficult. Consequently, it not ideally suited for discovery purposes using electronic data services. It is severely limited in its ability to handle the geospatial aspects of data, and also in how it handles the geographic extent of non-geographic data, e.g. data that applies to one country or region rather than another.

FGDC

This was developed by the US Federal Geographic Data Committee for discovery services for geospatial data. It has been largely superseded by ISO 19115.

ISO 19115

This describes all aspects of geospatial metadata and provides a comprehensive set of metadata elements. It is designed for electronic metadata services, and the elements are designed to be searchable wherever possible. It is widely used as the basis for geospatial metadata services internationally and is now being adopted by most organizations. It is a very complex standard and for this reasons the NAP (North American Profile) has been created, which identifies the key data elements that should be a part of all data being produced in North America.

The Geospatial Portal will be following the NAP metadata profile that is described in detail in this guide:

Canadian General Standards Board. *North American Profile of ISO 19115:2003 – Geographic Information –*

*Metadata (NAP – Metadata).* CAN/CGSB-171.100-2009. Gatineau, Quebec: Canadian General

Standards Board, 2009.

Best Practices Guide for Metadata Creation

The Best Practices Guide comprises a set of metadata elements and guidance on the information to be put in each field. These elements are taken from those in Clause 5 of NAP-Metadata which describes the metadata content and its structure. These elements were selected by the Geospatial Portal Metadata Standards Working Group (MSWG): Trudy Bodak (Chair), Diane Boyd, Erin Forward, Peter Genzinger, Suzette Giles, Leanne Hindmarch, Jenny Marvin, Richard Pinnell and Wei Zhoa.

Notation used in the Best Practices Guide

This Best Practice Guide provides a set of detailed guidelines for creating metadata to the NAP: ISO 19115:2003 version 2009.

The information below is based on section 4 of the NAP: “Using this profile.”

This Best Practices Guide consists of a subset of all the clauses available in the North American Profile of ISO 19115. When clauses are not being used this has been noted in the document which follows – however, lower-level clauses within sections that are not being used are not described in this document at all.

Clauses numbers

Clause numbers are unique and persistent reference numbers assigned to each element or class described in the tables.

Clause Names

Attribute names

Attrubute names begin with a lowercase letter (e.g. fileIdentifier).

Typically, an attribute is of basic type as documented in NAP Annex B, e.g. the metadata attribute fileIdentifier is of the type free text (or CharacterString).

However, in some cases, it refers to a metadata class, e.g. the metadata *contact* attribute refers to the CI\_ResponsibleParty class.

Component names

Component names begin with a capital letter (e.g. Identification Information).

They always refer to a metadata class, e.g. the metadata Identification Information component refers to the metadata classes identified as MD\_DataIdentification and SV\_ServiceIdentification.

Consequently, an attribute of a given name (e.g. citation) may refer to a class of a same name (e.g. Citation) but capitalized differently.

Multiplicity

Multiplicity (occurrence) indicates both whether a clause is mandatory or not, and the number of occurrences allowed.

M - Mandatory: obligation to provide the information. Maximum is 1 occurrence.

O - Optional: freedom [for the data provider] to provide or not provide the information. Maximum is 1 occurrence.

C - Conditional: obligation to provide the information subject to a predefined rule. Maximum is 1 occurrence.

M, Repeatable (M,\*): Mandatory, Repeatable

O, Repeatable (O,\*): Optional, Repeatable

C, Repeatable (C,\*): Conditional, Repeatable

In some cases clauses which are optional in NAP are mandatory in Scholars Portal; in such cases the document includes the SP policy beside the NAP policy in the clause name, such as:

5.2.15 Metadata Maintenance Information (Optional, Repeatable \*) (Mandatory at SP)

Type

When the clause identifies an item of metadata, this attribute designates one of the data types identified in normative Annex B; some common types are CharacterString, Date, Boolean, Integer, etc.

When the clause identifies an item of metadata for which a coded domain is defined, the name of the NAP– Metadata code list is presented.

When the clause identifies a metadata component, the name of the abstract class is presented, as well as the clause in which that class is implemented elements which make up these classes

Methods used for describing the subject of a dataset

The Scholars GeoPortal Metadata Standards Working Group (MSWG) made a number of specific recommendations for controlled vocabularies to use when describing the subject of a dataset, which have been adopted at Scholars Portal.

Topic Categories (5.3.1.11)

The Topic Category element provides a broad thematic classification for geographic data. It groups datasets under very general terms for the purpose of topical keyword searches.

Scholars Portal has adopted the International Organization for Standards Metadata Standard (ISO 19115) Topic Categories to organize geospatial datasets into broad data categories or topics. See CodeList napMD\_TopicCategoryCode (described later in this document). Descriptions of each of the categories can be found in Appendix A.

Keywords (5.3.6)

Keywords are commonly used words or phrases that capture the essence of a dataset's content.  Keywords should be robust in the sense that they can stand the test of time as useful descriptors and they must provide for efficient management, discovery and retrieval of geospatial datasets.  Keywords may be controlled by means of standard lists such as thesauri, or these keywords may be uncontrolled.  NAP uses a codelist napMD\_KeywordTypeCode to categorize keywords by type:   theme, place, stratum, temporal, and discipline.

Theme Keywords

Theme keywords describe the thematic content or subject of a geospatial dataset.  Examples of theme keywords are: photograph, bathymetry, medical centres, population, and surficial geology.  Theme keywords that are applied to a particular dataset may include terms that are hierarchical (e.g., broader and narrower), equivalent or alternative, and perhaps also associative in order to provide for the best possible results in terms of retrieval by an end-user.

At least one of the theme keywords are to be selected from one of two controlled vocabularies. The Keywords Task Group evaluated a number of thesauri as potential sources of thematic keywords for describing geospatial datasets; these are listed in Appendix B. Based on this evaluation, Scholars Portal has adopted the following two thesauri as authoritative sources for thematic keywords:

* Government of Canada Core Subject Thesaurus (LAC), and
* LIO-MNR Thesaurus (Ontario Ministry of Natural Resources)

Place Keywords

Place keywords describe the geographical location of a geospatial dataset. Examples of place keywords are: Canada, northern Ontario, Maritime provinces, Toronto, and Mimico.

At least one of the place keywords are to be selected from the controlled vocabulary. The controlled place keywords should be sufficient for datasets with national or provincial coverage. For county or municipal level datasets, uncontrolled free-text keywords may also be added to describe local place names.

The Keywords Task Group evaluated a number of Canadian and foreign authoritative sources for place names; these are listed in Appendix C. Based on this evaluation, Scholars Portal has adopted the following resource as our authoritative sources for place keywords:

* Global Change Master Directory’s Location Keywords

Policies for working with existing metadata

When metadata is by data owners, suppliers or custodians, it will be used as supplied, as outlined below:

* Fields designated in this document as Mandatory will have the appropriate information added if it is not supplied
* Fields designated as Conditional will have the appropriate information added if it is not supplied and is needed to meet the Conditional requirement
* Fields designated as Optional will not have information added. However if the information has been supplied it will not be deleted.

Changes that will be made to the metadata:

* Obvious errors such as spelling mistakes will be corrected
* Personal names, personal work phone numbers, personal work e-mail addresses, and street addresses will be removed from the metadata record.
* Keywords not in an authorized thesaurus will **not** be removed.

Metadata Content

5.1 Introduction

This section presents the metadata elements, from NAP: ISO 19115:2003 (version 2009), which will be used in practice when generating metadata records for Scholars GeoPortal. To review the full set of metadata elements provided for by the standard, please see the NAP: ISO 19115:2003 (version 2009) document.

5.2 Metadata Record Information (Mandatory)

Metadata clause name: Metadata Record Information

Type:[MD\_Metadata](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_1)

Description:

This is the root metadata element, and it contains several attribute classes, in addition to a number of major component classes. The component classes make up the major sections of a NAP metadata record, and are each described in detail within this document.

Attribute classes: 5.2.1 [fileIdentifier](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_2) (M)

5.2.2 [language](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_3) (M)

5.2.3 [characterSet](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_4) (M)

5.2.4 [parentIdentifier](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_5) , (C) (Not using in SP)

5.2.5 [hierarchyLevel](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_6) (M,\*)

5.2.6 [contact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_7) (M,\*)

5.2.7 [dateStamp](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_8) (M)

5.2.8 [metadataStandardName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_9) (M)

5.2.9 [metadataStandardVersion](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_10) (O) (M in SP)

5.2.10 [dataSetURI](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_11) (O)

5.2.11 [locale](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_12) (C,\*)

Component classes: 5.2.12 [MD\_Identification](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_2) (M,\*)

5.2.13 [MD\_Constraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_14) (O,\*) (Not using in SP)

5.2.14 [DQ\_DataQuality](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_17) (O,\*)

5.2.15 [MD\_MaintenanceInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_46) (O,\*)

5.2.16 [MD\_SpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_47) (O,\*)

5.2.17 [MD\_ReferenceSystem](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_54) (C,\*)

5.2.18 [MD\_ContentInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_57) (O,\*) (Not using in SP)

5.2.19 [MD\_PortrayalCatalogueReference](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_63) (O,\*) (Not using in SP)

5.2.20 [MD\_Distribution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_64) (O)

5.2.21 [MD\_ApplicationSchemaInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_70) (O,\*) (Not using in SP)

5.2.1 File Identifier (Mandatory)

Metadata clause name:[fileIdentifier](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_2)

Type:free text (CharacterString)

Description:

**Unique phrase or string which uniquely identifies the metadata file.**

Usage Note:

**Each metadata record shall have a unique file identifier to distinguish it from other resources.** System supplied: the structure of the number has no meaning*.*

Example:

4baf22ce-5427-440d-9a6d-9153192b7b4f

5.2.2 Metadata language (Mandatory)

Metadata clause name: [language](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_3)

Type:free text (CharacterString)

Description:

**Language of the metadata composed of an ISO 639-2/T three letter language code and an ISO3166-1 three letter country code.**

Usage Note:

**This attribute describes the primary language of free text attributes. The language code is given in lower case, and the country code is given in uppercase. Language codes:** <http://www.loc.gov/standards/iso639-2/php/English_list.php>. C**ountry codes:** <http://userpage.chemie.fu-berlin.de/diverse/doc/ISO_3166.html>. When more than one language is given in the metadata then the attribute *locale* (5.2.11) is mandatory.

Example:

eng; CAN

5.2.3 Metadata character set (Mandatory)

Metadata clause name: [characterSet](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_4)

Type: **Code List** [napMD\_CharacterSetCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_454)

Description:

Character coding standard in the metadata

Usage Note:

Restricted to ‘utf8’

Example:

utf8

5.2.4 Parent Identifier (Conditional) (Not using in SP)

Do not use

Scholars Portal is not currently describing parent-child relationships. Records are created either at the dataset or the series level, but never both for one product.

5.2.5 Hierarchy Level (Mandatory, Repeatable \*)

Metadata clause name: [hierarchyLevel](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_6)

Type: **Code List** [napMD\_ScopeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_617)

Description:

**Dataset level to which the metadata applies.**

Usage Note:

**Select from Code List.** Options include: [attribute](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_618), [attributeType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_619), [collectionHardware](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_620), [collectionSession](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_621), [dataset](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_622), [series](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_623), [nonGeographicDataset](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_624), [dimensionGroup](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_625), [feature](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_626), [featureType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_627), [propertyType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_628), [fieldSession](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_629), [software](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_630), [service](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_631), [model](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_632), [tile](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_633)

Usage Note:

**If hierarchy is unknown, then default value is “dataset”.**

Usage Note:

A *topicCategory* (5.3.1.11) code shall be provided when *heirarchyLevel* (5.2.5) is set to “dataset”.

Usage Note:

Either *Geographic Bounding Box*  (5.13.3) or *Geographic Description* (5.13.4) is required when *heirarchyLevel*  (5.2.5) is set to “dataset”.

Example:

A record describing an individual dataset in the “CanMap RouteLogistics” package would be at the “dataset” hierarchy level. A record describing “CanMap RouteLogistics” would be at the “series” hierarchy level.

5.2.6 Metadata Contact (Mandatory, repeatable \*)

Metadata element name: [contact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_7)

Type: [CI\_ResponsibleParty](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_81) (see 5.16)

Description:

**The party responsible for the metadata content.**

Usage Note:

**Insert here the Responsible Party - CI\_ResponsibleParty and its relevant attributes and components - described at 5.16, later in this document.**

Usage Note:

**Describe at the organization level only in SP. Contact information (5.16.4) shall be provided.**

5.2.7 Date Stamp (Mandatory)

Metadata element name: [dateStamp](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_8)

Type: Date

Description:

Metadata creation date.

Usage Note:

From NAP Annex B, the Date type **gives a value for the representation of:**

**1. year e.g. 2006**

**2. year and month e.g. 2006-10**

**3. year, month, and day e.g. 2006-10-01**

Usage Note:

Current practice in SP is to include the date the record was first created at Scholars Portal. Any metadata creation date provided by data producer is removed.

Example:

**2009-06-30**

5.2.8 Metadata standard name (Mandatory)

Metadata element name: [metadataStandardName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_9)

Type: free text (CharacterString)

Description:

**Name of the metadata standard/profile used.**

Usage Note:

**In SP Metadata Editor, this entry is filled in by default.**

Example:

North American Profile of ISO19115:2003 – Geographic information – Metadata

5.2.9 Metadata standard version (Optional) (Mandatory in SP)

Metadata element name: [metadataStandardVersion](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_10)

Type: free text (CharacterString)

Description:

**Version of the metadata standard/profile used.**

Usage Note:

**In SP Metadata Editor, this entry is filled in by default.**

Example:

**2009**

****5.2.10 Dataset URI (Optional) (Mandatory in SP)****

Metadata element name:**dataSetURI**

Type:**free text (CharacterString)**

Description:

Uniform Resource Identifier for the dataset along with its on line function code.

Usage Note:

The SP URI is constructed following a particular pattern described in the “How To” guide.

Example:

/NAP/DMTI\_2010\_CanMapRL\_Canada\_TZD.xml

5.2.11 Locale (Conditional, Repeatable \*) (Not using at SP)

Do not use

May adopt in the future, if it is decided that Scholars Portal needs to have both English and French versions of free text (CharacterString) fields within the same metadata record.

5.2.12 Identification Information (Mandatory, Repeatable\*)

Metadata element name: identificationInfo

Type: MD\_Identification (see 5.3)

Description:

Basic information about the dataset.

Usage Note:

**Insert here the Identification Information – MD\_Identification and its relevant attributes and components - described at 5.3, later in this document.**

5.2.13 Constraints (Optional, Repeatable \*) (Not using at SP)

Do not use

5.2.14 Data Quality Information (Optional, Repeatable \*)

Metadata element name: Data Quality Information

Type: [DQ\_DataQuality](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_17) (see 5.5)

Description:

Data quality information for the resource.

Use Note:

**Insert here the Data Quality Information – DQ\_DataQuality and its relevant attributes and components - described at 5.5, later in this document.**

5.2.15 Metadata Maintenance Information (Optional, Repeatable \*) (Mandatory at SP)

Metadata element name: Metadata Maintenance Information

Type: MD\_MaintenanceInformation (see 5.6)

Description:

**Information about metadata update**

Usage Note:

**Insert here the Metadata Maintenance Information – MD\_MaintenanceInformation and its relevant attributes and components - described at 5.6, later in this document.**

5.2.16 Spatial Representation Information (Optional, Repeatable \*)

Metadata element name: spatialRepresentationInfo

Type: MD\_SpatialRepresentation (see 5.7)

Description:

**Digital representation of vector and/or grid objects.**

Usage Note:

**Insert here the Spatial Representation Information – MD\_SpatialRepresentation and its relevant attributes and components - described at 5.7, later in this document.**

5.2.17 Reference System Information (Conditional, Repeatable \*)

Metadata element name: Reference System Information

Type: [MD\_ReferenceSystem](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_54) (see 5.8)

Description:

**Describes attributes that provide information about reference system information**

Use Note:

**Insert here the Reference System Information – MD\_ReferenceSystem and its relevant attributes and components - described at 5.8, later in this document.**

5.2.18 Content Information (Optional, Repeatable \*) (Not using at SP)

**Do not use**

5.2.19 Portrayal Catalogue Reference (Optional, Repeatable \*) (Not using at SP)

**Do not use**

5.2.20 Distribution Information (Optional)

Metadata element name: **Distribution Information**

Type: [MD\_Distribution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_64) (see 5.11)

Description:

Information about acquiring the dataset.

Usage Note:

**Insert here the Distribution Information – MD\_Distribution and its relevant attributes and components - described at 5.11, later in this document.**

5.2.21 Application Schema Information (Optional, Repeatable \*) (Not using at SP)

**Do not use**

5.3 Identification Information (Mandatory, Repeatable \*)

Metadata element name: Identification Information

Type:MD\_Identification. This is an abstract class, which can only be represented via either MD\_DataIdentification (5.3.1) OR SV\_ServiceIdentification (5.3.2, Not using in SP)

Description:

Identification information is provided either via data identification or service identification depending on the method to make the resource available. Data identification uniquely identifies a data resource, whereas service identification identifies a Web service that operates on a data resource. Note that metadata details in data identification (5.3.1) need not be repeated when a dataset is also provided as a service described in service identification (5.3.2) which references that dataset.

Usage Note:

MD\_Identification is an abstract class, which can only be represented via either MD\_DataIdentification (5.3.1) OR SV\_ServiceIdentification (5.3.2, Not using in SP)

5.3.1 Data Identification (Optional, Repeatable \*)

Metadata element name: Data Identification

Type: MD\_DataIdentification

Description:

Information which describes a dataset.

Usage Note:

Data Identification is required if Service Identification is not provided.

Attribute classes: 5.3.1.1 [citation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_24) (M)

5.3.1.2 [abstract](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_25) (M)

5.3.1.3 [purpose](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_26) (O)

5.3.1.4 [credit](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_27) (O,\*) (Not using in SP)

5.3.1.5 [status](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_28) (M,\*)

5.3.1.6 [pointOfContact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_29) (O,\*) (Not using in SP)

5.3.1.7 [spatialRepresentationType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_36) (O,\*)

5.3.1.8 [spatialResolution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_37) (O,\*)

5.3.1.9 [language](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_38) (M)

5.3.1.10 [characterSet](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_39) (O,\*)

5.3.1.11 [topicCategory](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_40) (C,\*)

5.3.1.12 [environmentDescription](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_41) (O)

5.3.1.13 [extent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_42) (C,\*)

5.3.1.14 [supplementalInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_43) (O)

Component classes: 5.3.1.15 [MD\_MaintenanceInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_46) (O,\*)

5.3.1.16 [MD\_BrowseGraphic](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_7) (O,\*)

5.3.1.17 [MD\_Keywords](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_8) (O,\*)

5.3.1.18 [MD\_Constraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_14) (O,\*)

5.3.1.19 [MD\_AggregateInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_9) (O,\*) (Not using in SP)

5.3.1.1 Citation (Mandatory)

Metadata element name: citation

Type: [CI\_Citation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_79) (see 5.14)

Description:

**Citation for the dataset.**

Usage Note:

**Insert here the Citation– CI\_Citation and its relevant attributes and components - described at 5.14 in this document.**

5.3.1.2 Abstract (Mandatory)

Metadata element name: abstract

Type: free text (CharacterString)

Description:

**Brief narrative summary of the dataset’s contents.**

****Us****age ****Note:****

**Ideally, an abstract should include information on general content, thematic features (e.g., geology, climatology; etc.), and features; dataset application: GIS, CAD, image, database; geographic coverage: county/city name; time period of content: begin and end date; and special data characteristics or limitations.**

****Use Note:****

**In practice, abstract is typically taken as provided by the data producer. Revisions are made where additional relevant information is known.**

5.3.1.3 Purpose (Optional)

Metadata element name: purpose

Type: free text (CharacerString)

Description:

**Summary of the intentions for which the dataset was developed.** Purpose includes objectives for creating the dataset and what the dataset is to support

Example:

To provide a detailed overview of the surficial geology of southern Ontario and associated attributes available to the land-use planning, consulting, aggregate/industrial mineral industry and development community as well as government geoscientists, resource scientists, conservation authorities, land-use planners and academic researchers. Also, the data set will be of value to the broader scientific community, school teachers and general public who have an interest in Ontario's geological history and use of earth resources.

5.3.1.4 Credit (Optional, Repeatable \*) (Not using in SP)

Do not use

5.3.1.5 Status (Mandatory, Repeatable \*)

Metadata element name: status

Type: **Code List** [napMD\_ProgressCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_106)

Description:

**Development phase of the dataset**

****Us****age ****Note:****

**Select from Code List.** Options include: [completed](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_593), [historicalArchive](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_594), [obsolete](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_595), [onGoing](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_596), [planned](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_597), [required](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_598), [underDevelopment](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_599), [proposed](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_600)

Example:

ongoing (Could be displayed in user interface as ‘Ongoing’)

5.3.1.6 pointOfContact (Optional, Repeatable \*) (Not using in SP)

Do not use

5.3.1.7 Spatial Representation Type (Optional, Repeatable \*)

Metadata element name: spatialRepresentationType

Type: **Code List** [napMD\_SpatialRepresentationTypeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_109)

Description:

**Object(s) used to represent the geographic information.**

****Us****age ****Note:****

**Select from Code List.** Options include: [vector](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_635), [grid](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_636), [textTable](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_637), [tin](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_638), [stereoModel](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_639), [video](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_640)

Example:

vector

5.3.1.8 Spatial Resolution (Optional, Repeatable \*)

Metadata element name: spatialResolution

Type: [MD\_Resolution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_5)  **(see 5.3.3)**

Description:

**The level of detail in a dataset expressed as equivalent scale or ground distance.**

Usage Note:

**Insert here the Resolution – MD\_Resolution and its relevant attributes and components - described at 5.3.3 in the box below.**

|  |
| --- |
| ****5.3.3**** Spatial Resolution (Optional, Repeatable \*)  Metadata element name: Spatial Resolution  Type: [MD\_Resolution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_5)  Description: **The level of detail in a dataset expressed as equivalent scale or ground distance.**  Attribute classes:5.3.3.1 [equivalentScale](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_54) (C)  5.3.3.2 [distance](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_55) (C)  Usage Note:  One and only one of the following must be entered: equivalentScale (5.3.3.1) or distance (5.3.3.2) as approropriate.  Usage Note:  **From INSPIRE: “**Spatial resolution refers to the level of detail of the data set. It shall be expressed as a set of zero to many resolution distances (typically for gridded data and imagery-derived products) or equivalent scales (typically for maps or map-derived products). An equivalent scale is generally expressed as an integer value expressing the scale denominator (5.3.3.1). A resolution distance shall be expressed as a numerical value associated with a unit of length (5.3.3.2)”  5.3.3.1 Equivalent Scale (Conditional)  Metadata element name: equivalentScale  Type: [MD\_RepresentativeFraction](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_6)(see 5.3.4)  Description:  **Detail expressed as the numerical scale of a comparable hardcopy map or chart.**  Usage Note:  EquivalentScale is entered if and only if distance (5.3.3.2) is not provided.  Usage Note:  **Insert here the Representative Fraction – MD\_RepresentativeFraction and its relevant attributes and components - described at 5.3.4 in this document.**  5.3.3.2 Distance (Conditional)  Metadata element name: distance  Type: Distance  Description: **Ground sample distance.**  Usage Note:  **NAP describes data type Distance as: “A measure of length between two points. A distance is made up of a value and a unit of measure e.g. centimetre, metre, mile.”**  Usage Note:  Distance is entered if and only if EquivalentScale (5.3.3.1) is not provided.  Example: 30 cm  1 m  5.3.4 Representative Fraction (Conditional)  Metadata element name: Representative Fraction  Type: [MD\_RepresentativeFraction](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_6)  Description:  The scale of a map or other cartographic object expressed as a fraction or ratio which relates unit distance on the map or other cartographic object to distance, measured in the same units on the ground  Attribute classes: 5.3.4.1 denominator (M)  5.3.4.1 Denominator (Mandatory)  Metadata element name: denominator  Type: Integer  Description:  The number below the line in a proper fraction that the numerator is equal to 1.  Example:  10000 |

5.3.1.9 Dataset language (Mandatory, Repeatable \*)

Metadata element name: language

Type: free text (CharacterString)

Description:

**Languages of the dataset using standard ISO three letter codes.**

Usage Note:

**Language code is given in lower case. Country code is given in uppercase. Language codes:** <http://www.loc.gov/standards/iso639-2/php/English_list.php> **Country codes:** <http://userpage.chemie.fu-berlin.de/diverse/doc/ISO_3166.html>.

Example:

**eng; CAN**

**fra; CAN**

5.3.1.10 Character Set (Optional, Repeatable \*) (Not using at SP)

Do not use

This field has not been included in the Scholars Portal Metadata editor as of yet, but could be in the future. For description, see 5.2.3 which is similar but described the metadata character set.

5.3.1.11 Dataset topic category (Conditional, Repeatable \*)

Metadata element name: topicCategory

Type: **Code List** [napMD\_TopicCategoryCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_110)

Description:

**The main theme(s) of the dataset.**

Usage Note:

**Select from Code List.** Options include: 19 categories**. More than one category may be selected.** [*farming*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_642), [*biota*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_643), [*boundaries*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_644), [*climatologyMeterologyAtmosphere*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_645), [*economy*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_646), [*elevation*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_647), [*environment*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_648), [*geoscientificInformation*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_649), [*health*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_650), [*imageryBaseMapsEarthCover*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_651), [*intelligenceMilitary*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_652), [*inlandWater*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_653), [*location*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_654), [*oceans*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_655), [*planningCadastre*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_656), [*society*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_657), [*structure*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_658), [*transportation*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_659), [*utilitiesCommunication*](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_660)

Usage Note:

**Topic Category is required when Hierarchy Level (5.2.5) type is set to dataset.**

Example:

geoscientificInformation (Could display in user interface as ‘Geoscientific Information’)

5.3.1.12 Environment Description (Optional)

Metadata element name: environmentDescription

Type: free text (CharacterString)

Description:

Describes the dataset’s processing environment.

Usage Note:

Include information such as software, computer operating system, filename, and dataset size.

Example:

Microsoft Windows 2000 Version 5.2 (Build 3790) Service Pack 2; ESRI ArcCatalog 8.3.0.800

5.3.1.13 Extent (Conditional, Repeatable \*)

Metadata element name: extent

Type: [EX\_Extent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_71) **(see 5.13)**

Description:

Describes the spatial (horizontal and/or vertical) and the temporal coverage in the resource.

Usage Note:

Either Geographic Bounding Box (5.13.3) or Geographic Description (5.13.4) is required when hierarchyLevel (5.2.5) is set to “dataset”.

Usage Note:

**Insert here the Extent – Ex\_Extent and its relevant attributes and components - described at 5.13 in the box below.**

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| 5.13 Extent Information (Conditional)  Metadata element name: Extent Information  Type: [EX\_Extent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_71)  Description:  Describes attributes and components that provide information about extent.  Attribute classes: 5.13.1 [description](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_292) (C)  Component classes: 5.13.2 [EX\_BoundingPolygon](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_73) (C,\*) (Not using in SP)  5.13.3 [EX\_GeographicBoundingBox](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_74) (C,\*)  5.13.4 [EX\_GeographicDescription](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_75) (C,\*) (Not using in SP)  5.13.5 [EX\_TemporalExtent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_294) (C,\*) (Not using in SP)  5.13.6 [EX\_SpatialTemporalExtent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_77) (C,\*) (Not using in SP)  5.13.7 [EX\_VerticalElement](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_295) (C,\*) (Not using in SP)  Usage Note:  At least one of description or geographic bounding box shall be reported.  5.13.1 Description (Conditional)  Metadata element name: description  Type: free text (CharacterString)  Description:  Text which describes the spatial and temporal extent of the dataset.  Usage Note:  Description is mandatory when Geographic Bounding Box is not provided.  This field still needs to be added to the editor.  5.13.2 Bounding Polygon (Conditional, Repeatable \*) (Not using in SP)  Do not use  5.13.3 Geographic Bounding Box (Conditional, Repeatable \*)  Metadata element name: Geographic Bounding Box  Type: [EX\_GeographicBoundingBox](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_74)  Description:  **An element which describes inclusions or exclusions in a resource. It consists of approximation on the horizontal extent of the data represented by a rectangle-like shape.**  Attribute classes:5.13.1 [extentTypeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_297) (O) (Not using in SP)  5.13.2 [westBoundLongitude](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_301) (M)  5.13.3 [eastBoundLongitude](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_302) (M)  5.13.4 [southBoundLatitude](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_303) (M)  5.13.5 [northBoundLatitude](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_304) (M)  5.13.3.1 Extent Type Code (Optional) (Not using in SP)  Do not use    5.13.3.2 West Bounding Longitude (Mandatory)  Metadata element name: westBoundLongitude  Type: Decimal  Description:  Western most coordinate of the dataset extent.  Usage Note:  Use decimal degrees.  Example: -  82.813464  5.13.3.3 East Bounding Longitude (Mandatory)  Metadata element name: eastBoundLongitude  Type: Decimal  Description:  Eastern most coordinate of the dataset extent.  Usage Note:  Use decimal degrees.  Example:  -75.241668  5.13.3.4 South Bounding Latitude (Mandatory)  Metadata element name: southBoundLatitude  Type: Decimal  Description:  Southern most coordinate of the dataset extent.  Usage Note:  Use decimal degrees.  Example:  -42.095330  5.13.3.5 North Bounding Latitude (Mandatory)  Metadata element name: northBoundLatitude  Type: Decimal  Description:  Northern most coordinate of the dataset extent.  Usage Note:  Use decimal degrees.  Example:  46.489356  5.13.4 Geographic Description (Condition, Repeatable \*) (Not using in SP)  Do not use  5.13.5 Temporal Element (Conditional, Repeatable \*) (Not using in SP)  Do not use  5.13.6 Spatial Temporal Element (Conditional, Repeatable \*) (Not using in SP)  Do not use  5.13.7 Vertical Element (Conditional, Repeatable \*) (Not using in SP)  Do not use |

5.3.1.14 Supplemental Information (Optional)

Metadata element name: supplementalInformation

Type: free text (CharacterString)

Description:

**Other descriptive information about the dataset.**

Example:

**The aerial imagery, from which the orthophotography and contour data was derived, was collected during the spring and summer of 2006. Additions have been made in the spring of 2007 with flight lines being finished in Essex County.**

5.3.1.15 Resource Maintenance Information (Optional, Repeatable \*)

Metadata element name: Resource Maintenance Information

Type: [MD\_MaintenanceInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_46) **(see 5.6)**

Description:

Describes the frequency, scope and responsible party for updating the dataset.

Usage Note:

**Insert here the Maintenance Information – MD\_MaintenanceInformation and its relevant attributes and components - described at 5.6 the box below.**

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| 5.6 Maintenance Information (Optional, Repeatable \*) (Mandatory at SP)  Metadata element name: Maintenance Information  Type: [MD\_MaintenanceInformation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_46)  Description:  Provides information about how the resources or metadata records are updated.  Attribute classes: 5.6.1 [maintenanceAndUpdateFrequency](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_170) (M)  5.6.2 [dateOfNextUpdate](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_171) , (O) (Not used by SP)  5.6.3 [userDefinedMaintenanceFrequency](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_172) (O) (Not used by SP)  5.6.4 [updateScope](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_173) , (O,\*) (Not used by SP)  5.6.5 [updateScopeDescription](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_174) , (O,\*) (Not used by SP)  5.6.6 [maintenanceNote](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_175) , (O,\*) (Not used by SP)  5.6.7 [contact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_176) (O,\*) (Not used by SP)  5.6.1 Maintenance and Update Frequency (Mandatory)  Metadata element name: maintenanceAndUpdateFrequency  Type: **Code List** [napMD\_MaintenanceFrequencyCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_102)  Description:  **Frequency of changes and additions made to the resource after the initial completion.**  Usage Note:  **Select from Code List.** Options include: [continual](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_532), [daily](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_533), [weekly](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_534), [fortnightly](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_535), [monthly](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_536), [quarterly](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_537), [biannually](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_538), [annually](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_539), [asNeeded](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_540), [irregular](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_541), [notPlanned](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_542), [unknown](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_543), [semimonthly](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_544)  Example:  quarterly  5.6.2 Date of Next Update (Optional) (Not used at SP)  Do not use  5.6.3 User-Defined Maintenance Frequency (Optional) (Not used at SP)  Do not use  5.6.4 Update Scope (Optional, Repeatable \*) (Not used at SP)  Do not use  5.6.5 Update Scope Description (Optional, Repeatable \*) (Not used at SP)  Do not use  5.6.6 Maintenance Note (Optional, Repeatable \*) (Not used at SP)  Do not use  5.6.7 Contact (Optional, Repeatable \*) (Not used at SP)  Do not use |

5.3.1.16 Graphic Overview (Optional, Repeatable \*)

Metadata element name: Graphic Overview

Type: [MD\_BrowseGraphic](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_7) (see 5.3.5)

Description:

**The name, description and file type of an illustration of the dataset.**

Usage Note:

**Insert here the Browse Graphic – MD\_BrowseGraphic and its relevant attributes and components - described at 5.3.5 in the box below.**

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| ****5.3.5 Browse Graphic (Optional, Repeatable \*)****  Metadata element name: Browse Graphic  Type: [MD\_BrowseGraphic](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_7)  Description:  **The name, description and file type of an illustration of the resource.**  Attribute classes:5.3.5.1 [fileName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_59) (M)  5.3.5.2 [fileDescription](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_60) (O)  5.3.5.3 [fileType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_61) (O)  ****5.3.5.1 File name (Mandatory)****  Metadata element name: filename  Type: free text (CharacterString)  Description:  **Name of the graphic file provided to illustrate the resource.**  Usage Note:  **The filename shall include path or URL to access the graphic file and the file type extension.**  Example:  http://images.scholarsportal.info/gis/thumbnails/DMTI/DMTI\_2010\_CanMapRL\_Canada\_TZD.png  ****5.3.5.2 File Description (Optional)****  Metadata element name: fileDescription  Type: free text (CharacterString)  Description:  **Text description of the graphic file’s content.**  Example:  **Thumbnail**  ****5.3.5.3 File type (Optional)****  Metadata element name: fileType  Type: free text (CharacterString)  Description:  D**escription of the graphic file format.**  Example:  **png** |

5.3.1.17 Descriptive Keywords (Optional, Repeatable \*) (Mandatory in SP)

Metadata element name: Descriptive Keywords

Type: [MD\_Keywords](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_8) (see 5.3.6)

Description:

Commonly used words or phrases which describe the dataset. Optionally, the keyword type and a citation for the authoritative or registered resource of the keywords are also provided.

Usage Note:

**Insert here the Keywords – MD\_Keywords and its relevant attributes and components - described at 5.3.6 in the box below.**

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| ****5.3.6 Keywords (Optional, Repeatable \*) (Mandatory in SP)****  Metadata element name: Keywords  Type: [MD\_Keywords](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_8)  Description:  Commonly used words or phrases which describe the resource. The keyword type and a citation for the authoritative resource should also be provided.  Attribute classes: **5.3.6.1** [keyword](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_63) (M,\*)  5.3.6.2 [type](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_64) (O) (M in SP)  5.3.6.3 [thesaurusName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_65) (O)  Usage Note:  See introduction of this document for information about the approved authoritative keyword lists to be used.  ****5.3.6.1 Keyword (Mandatory, Repeatable \*)****  Metadata element name: **keyword**  Type: **free text (CharacterString)**  Description:  **Commonly used words or phrases which describe the resource (subject, place and temporal).**  Usage Note:  See introduction of this document for information about the approved authoritative keyword lists to be used. However, note that keywords provided by data providers should not be removed. Additional keywords from the authoritative keyword lists should be added in addition where appropriate.  Usage Note:  At minimum there should be at least two or three theme keywords, and at least one place keyword, in a record. At the other extreme, because a metadata record may include keywords supplied by the data provider as well as controlled keywords added by OCUL for enrichment, there is no prescribed upper limit (within reason).  Usage Note:  Keywords may be added from more than one of the approved authoritative keyword lists. Note that the Scholars Portal search interface includes word stemming, therefore keywords such as roads and children may substitute for road and child respectively when the choices differ between the approved keyword lists (i.e. a general search for the word road will also return results containing the word roads).  Example:  Education  Continent > North America > Canada > Ontario  5.3.6.2 Keyword type (Optional) (Mandatory in SP****)****  Metadata element type: type  Type: **CodeList** [napMD\_KeywordTypeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_523)  Description:  Term or type used to group keywords: discipline, place, stratum, temporal, or theme.  Usage Note:  **Select from Code List. Options include:** [discipline](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_524), [place](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_525), [stratum](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_526), [temporal](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_527), [theme](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_528), [product](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_529), [subTopicCategory](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_530)  Usage Note:  In the Scholars Portal Metadata Editor, the keyword type is selected by adding keywords into the relevant section (i.e. no need to manually fill out this field).  Example:  theme  ****5.3.6.3 Thesaurus Name (Optional)****  Metadata element type: thesaurusName  Type: [CI\_Citation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_79) (see 5.14)  Description:  The name of a registered authoritative keyword resource.  Usage Note:  **Insert here a Citation – CI\_Citation and its relevant attributes and components - described at 5.14 in this document.**  Usage Note:  In the Scholars Portal Metadata Editor, a citation is automatically included in the metadata record for each thesaurus from which keyword terms are added. It is not necessary to manually fill out the citation information.  Usage Note:  Currently, the Scholars Portal Metadata Editor is not including contact information or language with the thesaurus citation. However, it is strongly recommended to provide contact information with the thesaurus citation (5.16.4 contactInfo), and also to provide the language used in the thesaurus in the attribute otherCitationDetails (5.14.10) in Citation (5.14). E.g. language; fra; CAN. This should be added to the Metadata Editor at a future date. |

****5.3.1.18 Resource Constraints (Optional, Repeatable \*)****

Metadata element name: **Resource Constraints**

Type:[MD\_Constraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_14) **(see 5.4.1) and /or**

[MD\_LegalConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_15) **(see 5.4.2) and/or**

[MD\_SecurityConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_16) (see 5.4.3) (Not using at SP)

Description:

**Limitations or constraints on the use of or access to the resource.**

Usage Note:

**Insert here the relevant Constraints – MD\_Constraints, and/or MD\_LegalConstraints, and/or MD\_SecurityConstrations, and their relevant attributes and components - described at 5.4 in the box below.**

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| 5.4 Constraint Information (Optional, Repeatable \*) (Highly recommended SP)  Metadata element name: Constraint Information  Type: **5.4.1** [MD\_Constraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_14) **(O,\*) and /or**  5.4.2 [MD\_LegalConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_15) **(O,\*) and/or**  5.4.3 [MD\_SecurityConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_16) (O,\*) (Not using at SP)  Description:  Constraints are reported through metadata constraint information and/or legal constraints and/or security constraints.  5.4.1 Constraint Information (Optional, Repeatable \*) (Highly recommended at SP)  Metadata element name: Constraint Information  Type: [MD\_Constraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_14)  Description:  The limitations, restrictions, or statements on the resource fitness for use.  Attribute classes: 5.4.1.1 [useLimitation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_91) (C,\*)  5.4.1.1 Use Limitation (Conditional, Repeatable \*)  Metadata element name: useLimitation  Type: free text (CharacterString)  Description:  **Statement on the fitness for use or limitations on the use of the resource or metadata.**  Use Note:  The attribute [useLimitation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_91) is mandatory unless Legal Constraints (5.4.2) or Security Constraints (5.4.3) is provided.  Example:  **Not for Legal Purposes.**  5.4.2 Legal constraints (Optional, Repeatable \*) (Highly recommended at SP)  Metadata element type: Legal Constraints  Type: [MD\_LegalConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_15)  Description:  Legal restrictions or prerequisites to using the resource or accessing the metadata.  Attribute classes: 5.4.2.1 [useLimitation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_91) (O,\*) (Not using in SP)  5.4.2.2 [accessConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_93) (O,\*)  5.4.2.3 [useConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_94) (O,\*)  5.4.2.4 [otherConstraints](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_95) (C,\*)  5.4.2.1 Use Limitation (Optional, Repeatable \*) (Not using in SP)  Do not use  5.4.2.2 Access Constraints (Optional, Repeatable \*)  Metadata element name: accessConstraints  Type: Code List [napMD\_RestrictionCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_601)  Description:  Limitations on access to the resource or metadata to protect privacy, intellectual property, or any special limitations.  Usage Note:  **Select from Code List.** Options include: [copyright](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_602), [patent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_603), [patentPending](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_604), [trademark](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_605), [license](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_606), [intellectualPropertyRights](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_607), [restricted](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_608), [otherRestrictions](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_609), [licenseUnrestricted](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_610), [licenseEndUser](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_611), [licenseDistributor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_612), [privacy](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_613), [statutory](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_614), [confidential](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_615), [sensitivity](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_616)  Example:  license  5.4.2.3 Use Constraints (Optional, Repeatable \*)  Metadata element name: useConstraints  Type: Code List [napMD\_RestrictionCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_601)  Description:  Restrictions or limitations or warnings to protect privacy, intellectual property, or other special restrictions on the resource or the metadata.  Usage Note:  **Select from Code List.** Options include: [copyright](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_602), [patent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_603), [patentPending](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_604), [trademark](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_605), [license](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_606), [intellectualPropertyRights](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_607), [restricted](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_608), [otherRestrictions](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_609), [licenseUnrestricted](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_610), [licenseEndUser](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_611), [licenseDistributor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_612), [privacy](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_613), [statutory](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_614), [confidential](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_615), [sensitivity](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_616)  Example:  license  5.4.2.4 Other Constraints (Conditional, Repeatable \*)  Metadata element name: otherConstraints  Type: free text (CharacterString)  Description:  **Other restrictions or legal prerequisites for accessing the resource or metadata.**  Usage Note:  otherConstraints shall be provided if accessConstraints (5.4.2.2) or useConstraints (5.4.2.3) is set to "otherRestrictions".  Example:  Data only to be used for the purposes for which they were collected.  5.4.3 Security Constraints (Optional, Repeatable \*) (Not using in SP)  Do not use |

****5.3.1.19 Aggregation Information (Optional, Repeatable \*) (Not using in SP)****

Do not use

5.3.2 Service Identification (Optional, Repeatable \*) (Not using in SP)

Do not use

This section is relevant and will be implemented in the Scholars Portal Metadata Editor in the future.

5.5 Data Quality Information (Optional, Repeatable \*)

Metadata element name: **Data Quality Information**

Type: [DQ\_DataQuality](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_17)

Description:

**Describes attributes and components that provide information about data quality.**

Attribute classes: 5.5.1 [scope](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_102) (M)

Component classes:5.5.2 [report](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_103) , (C,\*) (Not using in SP)

5.5.3 [lineage](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_104) (C)

****5.5.1 Scope (Mandatory)****

Metadata element name: **scope**

Type: [DQ\_Scope](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_41) (see 5.5.4)

Description:

**The extent of characteristics for which data quality information is reported.**

Usage Note:

**Insert here the Scope – DQ\_Scope and its relevant attributes and components - described at 5.5.4, in the box below.**

Usage Note:

When attribute level (5.5.4.1) of scope (5.5.4) is set to “dataset”, Lineage (5.5.3) is mandatory.

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| ****5.5.4 Scope (Mandatory)****  Metadata element name: Scope  Type: [DQ\_Scope](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_41)  Description:  **The extent of characteristics for which data quality information is reported.**  Attribute classes:5.5.4.1 [level](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_149) (M)  5.5.4.2 [extent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_150) (O) (Not using at SP)  5.5.4.3 [levelDescription](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_151) (C,\*) (Not using at SP)  ****5.5.4.1 Level (Mandatory)****  Metadata element name: level  Type: Code List [napMD\_ScopeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_108)  Description:  **The data or application level for which data quality is described.**  Usage Note:  **Select from Code List.** Options include: [attribute](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_618), [attributeType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_619), [collectionHardware](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_620), [collectionSession](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_621), [dataset](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_622), [series](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_623), [nonGeographicDataset](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_624), [dimensionGroup](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_625), [feature](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_626), [featureType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_627), [propertyType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_628), [fieldSession](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_629), [software](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_630), [service](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_631), [model](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_632), [tile](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_633)  Usage Note:  NAP states that when level is not “dataset” or “series” then levelDescription must be entered. Note that this is not currently relevant at SP, currently all records have level of “dataset” or “series”.  Example:  dataset  ****5.5.4.2 Extent (Optional) (Not using in SP)****  Do not use  ****5.5.4.3 Level Description (Conditional, Repeatable \*) (Not using at SP)****  Do not use. (Not yet needed, as all records currently have level of “dataset” or “series”). |

****5.5.2 Report (Conditional, Repeatable \*) (Not used in SP)****

**Do not use**

****5.5.3 Lineage (Conditional)****

Metadata element name: **Lineage**

Type:[LI\_Lineage](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_38)

Description:

**Information or lack of information on the events and source data used to construct the dataset within the specified scope.**

Attribute classes:5.5.3.1 [statement](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_134) (O)

5.5.3.2 [source](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_135) (O,\*)

5.5.3.3 [processStep](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_136) (O,\*)

Usage Note:

At least one of the attributes of Lineage – statement, source, or processStep shall be provided if the scope (5.5.1) is set to ‘dataset’.

****5.5.3.1 Statement (Optional)****

Metadata element name: **statement**

Type: **free text (CharacterString)**

Description:

**General explanation of the data producer’s knowledge of the dataset lineage.**

Example:

“The geographic area boundaries, names, codes, and the relationships among the various geographic levels are found on Statistics Canada’s Spatial Data Infrastructure. These data for administrative areas are updated using information from provincial and territorial sources. These data for statistical areas are updated using the results of the previous census and input from users.”

****5.5.3.2 Source (Optional, Repeatable \*)****

Metadata element name: Source

Type: [LI\_Source](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_39) (see 5.5.22)

Description:

**Information on the sources used in the development of the dataset.**

Usage Note:

**Insert here the Source information – LI\_Source and its relevant attributes and components - described at 5.5.22, in the box below.**

Usage Note:

Source is provided when statement (5.5.3.1) or processStep 5.5.3.3) is not reported.

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| ****5.5.22 Source (Optional, Repeatable \*)****  Metadata element name: Source  Type: [LI\_Source](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_39)  Description:  **Information about the source data used in creating the date within the specified Scope.**  Attribute classes:5.5.22.1 [description](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_138) (O)  5.5.22.2 [scaleDenominator](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_139) (O) (Not using in SP)  5.5.22.3 [sourceReferenceSystem](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_140) (O) (Not using in SP)  5.5.22.4 [sourceCitation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_141) (O) (Not using in SP)  5.5.22.5 [sourceExtent](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_142) (O) (Not using in SP)    ****5.5.22.1 Description (Optional)****  Metadata element name: description  Type: free text (CharacterString)  Description:  Statement that describes the source data.  Usage Note:  Any data source information provided by the producer / distributor.  Example:  The Spatial Data Infrastructure (SDI) is the source for all 2006 Digital Boundary File products.  ****5.5.22.2 Scale Denominator (Optional) (Not using in SP)****  Do not use  ****5.5.22.3 Source Reference System (Optional) (Not using in SP)****  Do not use  ****5.5.22.4 Source Citation (Optional) (Not using in SP)****  Do not use  ****5.5.22.5 Source Extent (Optional) (Not using in SP)****  Do not use |

****5.5.3.3 Process Step (Optional, Repeatable \*)****

Metadata element name: Process Step

Type: [LI\_ProcessStep](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_40) (see 5.5.23)

Description:

**The events in the development of the dataset.**

Usage Note:

**Insert here the Process Steps – LI\_ProcessStep and its relevant attributes and components - described at 5.5.23, in the box below.**

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| ****5.5.23 Process Step (Optional, Repeatable \*)****  Metadata element name: Process Step  Type: [LI\_ProcessStep](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_40)  Description:  **The events in the development of the dataset.**  Attribute classes:5.5.23.1 [description](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_144) (M)  5.5.23.2 [rationale](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_145) (O) (Not using at SP)  5.5.23.3 [dateTime](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_146) (O) (Not using at SP)  5.5.23.4 [processor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_147) (O,\*) (Not using at SP)  ****5.5.23.1 Description (Manditory)****  Metadata element name: description  Type: free text (CharacterString)  Description:  **Description of the processes performed on the data.**  Example:  **DEM used to produce 1 metre contours.**  ****5.5.23.2 Rationale (Optional) (Not using at SP)****  Do not use  ****5.5.23.2 Date/Time (Optional) (Not using at SP)****  Do not use  ****5.5.23.2 Processor (Optional) (Not using at SP)****  Do not use |

5.7 Spatial Representation Information (Optional, Repeatable \*)

Metadata element name: Spatial Representation Information

Type: One or more of 5.7.1 [MD\_GridSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_48),(O,\*) and/or

5.7.2 [MD\_VectorSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_51) (O,\*) and/or

5.7.3 [MD\_Georectified](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_49), (O,\*) and/or

5.7.4 [MD\_Georeferenceable](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_50), (O,\*)

Usage Note:

MD\_SpatialRepresentation is an abstract class and can only be represented via [MD\_GridSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_48),and/or [MD\_Georectified](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_49), and/or [MD\_Georeferenceable](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_50), and/or [MD\_VectorSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_51). Only [MD\_GridSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_48) and [MD\_VectorSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_51) are being used at Scholars Portal.

****5.7.1 Grid Spatial Representation (Optional, Repeatable \*)****

Metadata element name: Grid Spatial Representation

Type: [MD\_GridSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_48)

Description:

**Information on the grid system used in the dataset.**

Component classes:5.7.1.1 [numberOfDimensions](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_179) (M)

5.7.1.2 [axisDimensionsProperties](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_180) (M)

5.7.1.3 [cellGeometry](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_181) (M)

5.7.1.4 [transformationParameterAvailability](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_182) (M)

Usage Note:

Grid Spatial Representation is required if dataset objects are gridded.

****5.7.1.1 Number of Dimensions (Mandatory)****

Metadata element name: **numberOfDimensions**

Type: **Integer**

Description:

**The number of independent spatio-temporal axes.**

Example:

**2**

****5.7.1.2 Axis dimension Properties (Mandatory)****

Metadata element name: **axisDimensionProperties**

Type: [MD\_Dimension](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_52) (see 5.7.5)

Description:

**Information on the dimension name, size, and resolution used.**

Usage Note:

**Insert here the Dimension properties – MD\_Dimension and its relevant attributes and components - described at 5.7.5, in the box below.**

Usage Note:

This element (see 5.7.5.3) can be used to state the resolution used (pixel size)

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| ****5.7.5 Dimension (Mandatory)****  Metadata element name: Dimension  Type: [MD\_Dimension](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_52)  Description:  **Information on the dimension name, size, and resolution used.**  Attribute classes:5.7.5.1 [dimensionName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_201) (M)  5.7.5.2 [dimensionSize](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_202) (M)  5.7.5.3 [resolution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_203) (O)  ****5.7.5.1 Dimension name (Mandatory)****  Metadata element name: **dimensionName**  Type:Code List [napMD\_DimensionNameTypeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_98)  Description:  Axis name.  Usage Note:  **Select from Code List.** Options include: [row](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_496) , [column](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_497), [vertical](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_498), [track](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_499), [crossTrack](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_500), [line](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_501), [sample](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_502), [time](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_503)  Example:  line    ****5.7.5.2 Dimension size (Mandatory)****  Metadata element name: **dimensionSize**  Type: **Integer**  Description:  **Number of elements along the axis.**  Example:  **4**    ****5.7.5.3 Resolution (Optional)****  Metadata element name: **resolution**  Type: **Measure**  Description:  **Degree of detail in the grid dataset.**  Usage Note:  A measure is made of a value and a unit of measure.  Example:  **10cm** |

****5.7.1.3 Cell Geometry (Mandatory)****

Metadata element name: cellGeometry

Type: Code List [napMD\_CellGeometryCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_94)

Description:

Identification of grid data as point or cell.

Usage Note:

**Select from Code List.** Options include: [point](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_451), [area](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_452), [voxel](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_453)

****5.7.1.4 Transformation Parameter Availability (Mandatory)****

Metadata element name: **transformationParameterAvailability**

Type: **Boolean**

Description:

Indication of image coordinates and geographic or map coordinates availability.

Usage Note:

“0” / “false” means no. “1” / “true” means yes

Example:

0

Scholars Portal needs to add this field to the editor still.

****5.7.2 Vector Spatial Representation (Optional, Repeatable \*)****

Metadata element name: **Vector Spatial Representation**

Type: [MD\_VectorSpatialRepresentation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_51)

Description:

**Information about the vector objects in the dataset.**

Attribute classes:5.7.2.1 [topologyLevel](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_198) (O) (Not using at SP)

5.7.2.2 [geometricObjects](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_199) (O,\*)

****5.7.2.1 Topology Level (Optional) (Not using at SP)****

Do not use

****5.7.2.2 Geometric Objects (Optional, Repeatable \*)****

Metadata element name: geometricObjects

Type: [MD\_GeometricObjects](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_53) (see 5.7.6)

Description:

**Identification of the objects used to represent features in the dataset.**

Usage Note:

**Insert here the Geometric Objects information – MD\_GeometricObjects and its relevant attributes and components - described at 5.7.6 in this document.**

|  |
| --- |
| 5.7.6 Geometric Objects (Optional, Repeatable \*)  Metadata element name: Geometric Objects  Type: [MD\_GeometricObjects](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_53)  Description:  **Identification of the objects used to represent features in the dataset.**  Attribute classes:5.7.6.1 [geometricObjectType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_205) (M)  5.7.6.2 [geometricObjectCount](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_206) (O)  ****5.7.6.1 Type of Geometric Object (Mandatory)****  Metadata element name: **geometricObjectType**  Type:Code List [napMD\_GeometricObjectTypeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_504)  Description:  Name of point or vector objects to locate zero, one, two or three dimensional locations on the dataset.  Usage Note:  Select from Code List. Options include: [complex](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_505), [composite](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_506), [curve](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_507), [point](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_508), [solid](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_509), [surface](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_510)  Usage Note:  Definition of composite: “connected set of curves, solids or surfaces.” Definition of a curve: “bounded, 1-dimensional geometric primitive, representing the continuous image of a line.” Definition of a surface: “bounded, connected 2-dimensional geometric primitive, representing the continuous image of a region of a plane.”  Example:  composite  ****5.7.6.2 Geometric Object Count (Optional)****  Metadata element name: **geometricObjectCount**  Type: **Integer**  Description:  **Total number of point or vector objects in the dataset.**  Example:  **5235** |

****5.7.3 Georectified Grid Information (Optional, Repeatable \*) (Not using in SP)****

Do not use

****5.7.4 Georeferenceable Grid Information (Optional, Repeatable \*) (Not using in SP)****

**Do not use**

**5.8 Reference System Information**(Conditional, Repeatable \*)

Metadata element name: Reference System Information

Type: [MD\_ReferenceSystem](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_54) (see 5.8.1)

Description:

**Describes attributes that provide information about reference system information.**

Attribute classes: 5.8.1 referenceSystemIdentifier (M)

5.8.1Reference System Identifier (Mandatory)

Metadata element name: referenceSystemIdentifier

Type: [RS\_Identifier](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_56) (see 5.8.2)

Description:

**Identifier of the Reference System.**

Usage Note:

**Insert here the Reference System Identifer – RS\_Identifier and its relevant attributes and components - described at 5.8.2 in the box below.**

|  |
| --- |
| 5.8.2 Reference system Identifier (Mandatory)  Metadata element name: **Reference System Identifier**  Type:[RS\_Identifier](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_56)  Description: Identifier of the Reference System.  Attribute classes:5.8.2.1 [authority](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_210) (O) (Not using at SP)  5.8.2.2 [code](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_211) (M)  5.8.2.3 [codeSpace](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_213) (O)  5.8.2.4 [version](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_214) (O)  Usage Note:  CRS (coordinate reference system) should be taken from a register such as EPSG ([www.epsg.org](http://www.epsg.org)). A dataset that has both a horizontal and a vertical CRS shall use a compound reference system with the horizontal CRS documented first and the vertical CRS documented second.  5.8.2.1 Authority (Optional) (Not used at SP)  **Do not use**  5.8.2.2 Code (Mandatory)  Metadata element name: code  Type: free text (CharacterString)  Description:  **Alphanumeric value identifying the source reference system.**  Usage Note:  CRS (coordinate reference system) should be taken from a register such as EPSG ([www.epsg.org](http://www.epsg.org)). A dataset that has both a horizontal and a vertical CRS shall use a compound reference system with the horizontal CRS documented first and the vertical CRS documented second.  Example:  4269 (This code represents NAD83 UTM zone 17N)  5.8.2.3 Code Space (Optional)  Metadata element name: **codeSpace**  Type: **free text (CharacterString)**  Description:  **Identifier/ namespace of the system in which the code is valid.**  Example:  www.epsg.org  5.8.2.4 Version (Optional) (Not using at SP)  **Do not use** |

5.11 Distribution Information (Optional)

Metadata element name: **Distribution Information**

Type:[MD\_Distribution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_64)

Description: Information about the dataset distributor and options to obtain the dataset.

Component classes: 5.11.1 [transferOptions](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_254) (O,\*)

5.11.2 [distributor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_255) (C,\*)

5.11.3 [distributionFormat](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_256) (C,\*) (Not using at SP)

****5.11.1 Transfer Options (Optional, Repeatable \*)****

Metadata element name: **transferOptions**

Type:[MD\_DigitalTransferOptions](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_65)

Description:

The means and media by which the data/dataset is obtained from the distributor.

Attribute classes: 5.11.1.1 [unitsOfDistribution](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_258) (O) (Not using at SP)

5.11.1.2 [transferSize](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_259) (O)

5.11.1.3 [onLine](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_260) (O,\*)

5.11.1.4 [offLine](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_261) (O) (Not using at SP)

****5.11.1.1 Units of Distribution (Optional) (Not using at SP)****

**Do not use**

****5.11.1.2 Transfer Size (Optional) (Not using at SP)****

Do not use

****5.11.1.3 On-Line (Optional, Repeatable \*)****

Metadata element name: online

Type: [CI\_OnlineResource](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_85) (see 5.20)

Description:

Information about the online sources where the data/dataset may be obtained.

Usage Note:

**Insert here the Online Resource information – CI\_OnlineResource and its relevant attributes and components - described at 5.20, later in this document.**

****5.11.1.4 Off-Line (Optional) (Not using at SP)****

Do not use

****5.11.2 Distributor (Conditional, Repeatable \*)****

Metadata element name: **Distributor**

Type:[MD\_Distributor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_66)

Description:

**Information about the data distributor.**

Attribute classes:5.11.2.1 [distributorContact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_263) , (M)

Component classes:5.11.2.2 [distributionOrderProcess](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_264) (O,\*) (Not using at SP)

Usage Notes:

Mandatory if Distribution format (5.11.3) is not provided.

****5.11.2.1 Distributor Contact (Mandatory)****

Metadata element name: **distributorContact**

Type:[CI\_ResponsibleParty](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_81) **(see 5.16)**

Description:

**Information on party responsible for dataset distribution.**

Usage Note:

**Insert here the Responsible Party information – CI\_ResponsibleParty and its relevant attributes and components - described at 5.16 in this document.**

Usage Note:

**Contact information (5.16.4 contactInfo) shall be provided.**

****5.11.2.2 Distribution Order Process (Optional, Repeatable \*) (Not using at SP)****

**Do not use**

****5.11.3 Distribution Format (Conditional, Repeatable \*) (Not using at SP)****

Do not use

5.14 Citation (Mandatory)

Metadata element name: Citation

Type: [CI\_Citation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_79)

Description:

**Information to reference the resource**

Usage Note:

citedResponsibleParty (5.14.7) shall be reported at least once. Contact information (5.16.4 contactInfo) for the cited responsible party shall also be provided.

Attribute classes: 5.14.1 [title](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_316) (M)

5.14.2 [alternateTitle](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_317) (O,\*)

5.14.3 [date](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_318) (M,\*)

5.14.4 [edition](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_319) (O)

5.14.5 [editionDate](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_320) (O)

5.14.6 [identifier](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_321) (O,\*)

5.14.7 [citedResponsibleParty](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_322) (M,\*)

5.14.8 [presentationForm](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_323) (O,\*) (Not using in SP)

5.14.9 [series](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_324) (O)

5.14.10 [otherCitationDetails](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_325) (O) (Not using in SP)

5.14.11 [collectiveTitle](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_326) (O) (Not using in SP)

5.14.12 [ISBN](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_327) (O) (Not using in SP)

5.14.13 [ISSN](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_328) (O) (Not using in SP)

5.14.1 Title (Mandatory)

Metadata element name: title

Type: free text (CharacterString)

Description:

**Name by which the cited resource is known.**

Usage Note:

**Generally, use title supplied by vender. When vendor supplies a title which includes acronyms, leave these, but also spell them out in parentheses if this is not already done elsewhere in the title.**

****Usage Note:****

If supplying title because one was not available from the vendor, generally avoid initial articles (such as The and A), acronyms, abbreviations, name of organization and dates and versions unless needed to differentiate between records. Acronyms, abbreviations, and other common

Usage Note:

If a title is available in a second official language, put the second title into the Alternate Title field (alternateTitle). If the title is not already available in a second language, it will not typically be translated.

Example:

Car Pool Parking Lots (CPL)

5.14.2 Alternate Title (Optional, Repeatable \*)

Metadata element name: alternateTitle

Type: free text (CharacterString)

Description:

**Short name or other language name by which the cited information is known.**

Example:

SWOOP (as an alternate title for Southwestern Ontario Orthophotography Project.)

Still need to add this to the metadata editor.

5.14.3 Date (Mandatory, Repeatable \*)

Metadata element name: date

Type: [CI\_Date](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_80) **(see 5.15)**

Description:

**Reference date for the cited resource**

Usage Note:

**Insert here the Citation– CI\_Citation and its relevant attributes and components - described at 5.14 in this document.**

5.14.4 Edition (Optional)

Metadata element name: edition

Type: free text (CharacterString)

Description:

**Version of the cited resource.**

Usage Note:

**Use information as supplied by vendor**

Example:

2008.3

5.14.5 Edition date (Optional) (Strongly recommended in SP)

Metadata element name: editionDate

Type: Date

Description:

Date of the edition

Usage Note:

From NAP Annex B, the Date type **gives a value for the representation of:**

**1. year e.g. 2006**

**2. year and month e.g. 2006-10**

**3. year, month, and day e.g. 2006-10-01**

Example:

**2009-06-30**

5.14.6 Identifier (Optional, Repeatable \*) (Not using at SP)

Do not use

Could include in metadata editor later if needed.

5.14.7 Cited Responsible Party (Mandatory, Repeatable \*)

Metadata element name: citedResponsibleParty

Type: [CI\_ResponsibleParty](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_81) (see 5.16)

Description:

**Identification of the contact for the resource**

Usage Note:

**Insert here the Responsible Party– CI\_ResponsibleParty and its relevant attributes and components - described at 5.16 in this document.**

5.14.8 Presentation Form (Optional, Repeatable \*) (Not using in SP)

Do not use.

Could include in metadata editor later.

5.14.9 Series (Optional)

Metadata element name: series

Type: [CI\_Series](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_86) (see 5.21)

Description:

Information about the series or collection of which the resource is a part.

Usage Note:

**Insert here the Series– CI\_Series and its relevant attributes and components - described at 5.21 in this document.**

|  |
| --- |
| 5.21 Series (Optional)  Metadata element name: Series  Type: [CI\_Series](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_86)  Description:  Information about a Series or dataset aggregation  Attribute classes: 5.21.1 [name](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_362) , (O) (M in SP)  5.21.2 [issueIdentification](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_363) ,(O) (Not using in SP)  5.21.3 [page](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_364) (O) (Not using in SP)  Usage Note:  NAP notes that the Series field is not for use for reference to a parent record, in that case use 5.2.4. At Scholars Portal, parent-child relationships are not currently being defined.  5.21.1 Series Name (Optional) (Mandatory in SP)  Metadata element name: name  Type: free text (CharacterString)  Description:  Name of the publication series or aggregate dataset of which the referenced dataset is a part.  Example:  CanMap RouteLogistics  5.21.2 Issue Identification (Optional) (Not using in SP)  Do not use  5.21.3 Page (Optional) (Not using in SP)  Do not use |

5.15 Date (Mandatory, Repeatable \*)

Metadata element name: Date

Type: [CI\_Date](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_80)

Description:

**The date in which the event or action occurred.**

Usage Note:

**Whenever possible include both creation date and revision date.**

Attribute classes:5.15.1 [date](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_330) , (M)

5.15.2 [dateType](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_331) (M)

5.15.1 Date (Mandatory)

Metadata element name: date

Type: Date

Description:

**The date in which the event or action occurred**

Usage Note:

From NAP Annex B, the Date type **gives a value for the representation of:**

**1. year e.g. 2006**

**2. year and month e.g. 2006-10**

**3. year, month, and day e.g. 2006-10-01**

Example:

1999-02

2008-08-15

5.15.2 Date Type (Mandatory)

Metadata element name: dateType

Type: **Code List** [napCI\_DateTypeCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_365)

Description:

Identification of the event used for the temporal aspect in the resource.

Usage Note:

**Select from Code List.** Options include: [creation](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_366), [publication](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_367), [revision](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_368), [notAvailable](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_369), [inForce](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_370), [adopted,](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_371) [deprecated](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_372), [superseded](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_373)

Example:

creation

5.16 Responsible Party (Mandatory, Repeatable \*)

Metadata element name: Responsible Party

Type: [CI\_ResponsibleParty](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_81),

Description:

**Identification of a responsible party for the resource and the party’s role in the resource.**

Attribute classes:5.16.1 [individualName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_333) (C) (Not using in SP)

5.16.2 [organisationName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_334) (C) (M in SP)

5.16.3 [positionName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_335) (C) (Not using in SP)

5.16.4 [contactInfo](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_336) (O)

5.16.5 [role](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_337) (M)

Usage Note:

It is often appropriate to have multiple responsible parties with different roles – e.g. the data provider as well as Scholars Portal.

5.16.1 Individual Name (Conditional) (Not using in SP)

Do not use.

5.16.2 Organization name (Conditional) (Mandatory in SP)

Metadata element name: [organisationName](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_334)

Type: free text (CharacterString)

Description: Name of the responsible organization.

Example: DMTI Spatial Inc.

5.16.3 Position Name (Conditional) (Not using in SP)

Do not use.

5.16.4 Contact Information (Optional)

Metadata element name: [contactInfo](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_336)

Type: [CI\_Contact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_82) (see 5.17)

Description:

**Information required enabling contact with the responsible person and/or organization.**

Usage Note:

Insert here the Contact – CI\_Contact and its relevant attributes and components – described at 5.17 in this document.

5.16.5 Role (Mandatory)

Metadata element name: [role](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_337)

Type: Code List [napCI\_RoleCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_90)

Description:

Function performed by the responsible party.

Usage Note:

**Select from Code List.** Options include: [resourceProvider](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_408), [custodian](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_409), [owner](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_410), [user](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_411), [distributor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_412), [originator](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_413), [pointOfContact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_414), [principalInvestigator](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_415), [processor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_416), [publisher](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_417), [author](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_418), [collaborator](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_419), [editor](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_420), [mediator](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_421), [rightsHolder](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_422)

Usage Note:

The following is an outline of how different role codes should generally be used in a SP metadata record.

* distributor – the organization which distributed the dataset to Scholars Portal.
* principalInvestigator – the primary authoring organization of the data. In some cases this is the same organization as the publisher – this is generally the case for Statistics Canada data.
* publisher – the producer of the dataset (under Data Identification Information). A responsible party with this role code MUST be provided in all records. If the data producer also has another role, add the responsible party twice. For example, Statistics Canada is both the principalInvestigator and a publisher.
* originator – this role code is typically used only in the Metadata Maintenance Information section, to describe the organization from which the source metadata originated.
* pointOfContact – each record will include at least one organization as a general point of contact. Scholars Portal should be the point of contact for both metadata enquiries (Metadata Maintenance Information section) and data enquiries (Contact section).

Example:

resourceProvider (Could display in user interface as ‘Resource provider’)

5.17 Contact (Optional)

Metadata element name: Contact

Type: [CI\_Contact](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_82)

Description:

Information which assists the user to contact an organization.

Attribute classes: 5.17.1 [phone](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_339) (O) (Not using in SP)

5.17.2 [address](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_340) (O)

5.17.3 [onlineResource](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_341) (O)

5.17.4 [hoursOfService](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_342) (O) (Not using in SP)

5.17.5 [contactInstructions (O)](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_343) (Not using in SP)

Usage Note:

Either address or onlineResource shall be provided.

5.17.1 Phone (Optional) (Not using in SP)

Do not use

5.17.2 Address (Optional)

Metadata element name: [address](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_340)

Type: [CI\_Address](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_84) (see 5.19)

Description:

**Physical and e-mail address to contact the organization or individual.**

Usage Note:

**Insert here the Address – CI\_Address and its relevant attributes – described at 5.19 in this document.**

5.17.3 Online Resource (Optional)

Metadata element name: [onlineResource](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_341)

Type: [CI\_OnlineResource](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_85) (see 5.20)

Description:

Information about Internet hosted resources.

Usage Note:

Insert the Online Resource – CI\_OnlineResource & its relevant attributes – described at 5.20 in this document.

****5.17.4 Hours of Service (Optional) (Not using in SP)****

**Do not use**

****5.17.5 Contact Instructions (Optional) (Not using in SP)****

**Do not use**

5.19 Address (Optional)

Metadata element name: Address

Type: [CI\_Address](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_84)

Description: Place and email addresses at which organizations or individual may be contacted

Attribute classes: 5.19.1 [deliveryPoint](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_348) (O)

5.19.2 [city](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_349) (O)

5.19.3 [administrativeArea](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_350) (O)

5.19.4 [postalCode](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_351) (O)

5.19.5 [country](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_352) (O)

5.19.6 [electronicMailAddress](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_353) (O)

Usage Note:

At least one of the attributes shall be provided.

5.19.1 Delivery Point (Optional)

Do not use

5.19.2 City (Optional)

Metadata element name: city

Type: free text (CharacterString)

Description:

City of the address.

Example:

Toronto

5.19.3 Administrative Area (Optional)

Metadata element name: administrativeArea

Type: free text (CharacterString)

Description:

State or province of the address.

Usage Note:

Lists of states and provinces are available at: http://www.usps.com/ncsc/lookups/usps\_abbreviatio

ns.htm (US) and <http://www.canadapost.ca/common/tools/pg/manual/PGaddress-e.asp> (Canada)

Example:

Ontario

5.19.4 Postal Code (Optional)

Do not use

5.19.5 Country (Optional)

Metadata element name: country

Type: free text (CharacterString)

Description:

Country of the address.

Usage Note:

The country name shall be taken from the ISO 3166 code list available at [http://www.iso.org/iso/en/prodsservices/ISO 3166ma/02iso-3166-code-lists/index.html](http://www.iso.org/iso/en/prodsservices/ISO%203166ma/02iso-3166-code-lists/index.html). The full country name must be entered, not the code.

Example:

Canada

5.19.6 Email Address (Optional)

Metadata element name: electronicMailAddress

Type: free text (CharacterString)

Description:

The electronic mailbox address of the responsible organization.

Example:

[gis@scholarportal.info](mailto:gis@scholarportal.info)

5.20 Online Resource (Optional)

Metadata element name: Online Resource

Type: [CI\_OnlineResource](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItemClasses.html#IC_85)

Description:

This section describes an online resource.

Attribute classes: 5.20.1 [linkage](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_355) (M)

5.20.2 [protocol](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_356) (M)

5.20.3 [applicationProfile](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_357) (O) (Not using in SP)

5.20.4 [name](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_358) (O)

5.20.5 [description](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_359) (O)

5.20.6 [function](http://www.geoconnections.org/developersCorner/napmetadata/register/registerItems.html#RI_360) (O) (Not using in SP)

5.20.1 Linkage (Mandatory)

Metadata element name: linkage

Type: URL

Description:

Internet location (address) for on-line access which uses a Uniform Resource Locator address or similar addressing scheme such as [www.isotc211.org](http://www.isotc211.org) or [ftp.isotc211.org](ftp://ftp.isotc211.org).

Example:

www.fgdc.gov/nap/metadata

5.20.2 Protocol (Mandatory)

Metadata element name: protocol

Type: free text (CharacterString)

Description:

The connection protocol to be used such as http, ftp, etc. The protocol should be taken from an official controlled list such as the Official Internet Protocol Standards published on the Web at <http://www.rfc-editor.org/rfcxx00.html>

Example:

http

5.20.3 Application Profile (Optional) (Not using in SP)

Do not use

5.20.4 Name (Optional) (Not using in SP)

Do not use

5.20.5 Description (Optional) (Strongly Recommended in SP)

Metadata element name: description

Type: free text (CharacterString)

Description:

Description of the utility that provides the resource sought.

Usage Note:

There are certain standardized phrases which must be included in the metadata editor for all links to services, in order for the portal application to interpret them correctly. These are the standard phrases:

Eng: Tiled map service (vector)  
 Dynamic map service (vector)

Image service (raster) {file format}

Table

Fra: Service de carte mis en cache (données vectorielles)

Service de carte dynamique (données vectorielles)

Service d’imagerie {file format]

Table

It is still possible to put any other descriptive text needed into the field (but avoid using the word “tiled”, “dynamic”, “image” or “raster” unless that is the type of data being described).

Example:

Tiled map service (vector)

5.20.6 Function (Optional) (Not using in SP)

Do not use

Appendix A

ISO 19115 Category Descriptions

biota = Biota

Naturally occurring flora and fauna. For example, resources describing wildlife, biological sciences, ecology, wilderness, sea life, wetlands, and habitats.

boundaries = Boundaries

Legal land descriptions.

****climatologyMeteorologyAtmosphere**** = ****Climatology/Meteorology/Atmosphere****

Atmospheric processes and phenomena. For example, resources describing cloud cover, weather, atmospheric conditions, climate change, and precipitation.

economy = Economy

Economic activities or employment. For example, resources describing labour, revenue, commerce, industry, tourism and ecotourism, forestry, fisheries, commercial or subsistence hunting, and exploration and exploitation of resources such as minerals, oil, and gas.

elevation = Elevation

Height above or below sea level. For example, resources describing altitude, bathymetry, digital elevation models, slope, and products derived from this information.

environment = Environment

Environmental resources, protection, and conservation. For example, resources describing pollution, waste storage and treatment, environmental impact assessment, environmental risk, and nature reserves.

farming = Farming

Rearing of animals or cultivation of plants. For example, resources describing irrigation, aquaculture, herding, and pests and diseases affecting crops and livestock.

geoscientificinformation = Geoscientific Information

Earth sciences. For example, resources describing geophysical features and processes, minerals, the composition, structure and origin of the earth’s rocks, earthquakes, volcanic activity, landslides, gravity information, soils, permafrost, hydrogeology, and erosion.

health = Health

Health services, human ecology, and safety. For example, resources describing human disease and illness, factors affecting health, hygiene, mental and physical health, substance abuse, and health services.

imageryBaseMapsEarthCover = Imagery/Base Maps/Earth Cover

Base maps. For example, resources describing land cover, topographic maps, and classified and unclassified images.

intelligenceMilitary = Intelligence/Military

Military bases, structures, and activities. For example, resources describing barracks, training grounds, military transportation, and information collection.

inlandWaters = Inland Waters

Inland water features, drainage systems, and their characteristics. For example, resources describing rivers and glaciers, salt lakes, water use plans, dams, currents, floods, water quality, and hydrographic charts.

location = Location

Positional information and services. For example, resources describing addresses, geodetic networks, postal zones and services, control points, and place names.

oceans = Oceans

Features and characteristics of salt water bodies excluding inland waters. For example, resources describing tides, tidal waves, coastal information, and reefs.

****planningCadastre**** ****= Planning Cadastre****

Land use. For example, resources describing zoning maps, cadastral surveys, and land ownership.

society = Society

Characteristics of societies and cultures. For example, resources describing natural settlements, anthropology, archaeology, education, traditional beliefs, manners and customs, demographic data, crime and justice, recreational areas and activities, social impact assessments, and census information.

structure = Structure

Man-made construction. For example, resources describing buildings, museums, churches, factories, housing, monuments, and towers.

transportation = Transportation

Means and aids for conveying people and goods. For example, resources describing roads, airports and airstrips, shipping routes, tunnels, nautical charts, vehicle or vessel location, aeronautical charts, and railways.

utilitiesCommunications = Utilities/Communications

Energy, water and waste systems, and communications infrastructure and services. For example, resources describing hydroelectricity, geothermal, solar, and nuclear sources of energy, water purification and distribution, sewage collection and disposal, electricity and gas distribution, data communication, telecommunication, radio, and communication networks

Appendix B

Theme Keyword Thesauri

The following thesauri were evaluated:

* Global Change Master Directory Science keywords (NASA)
* UNESCO Thesaurus
* AGROVOC Multilingual Agricultural Thesaurus (UN FAO)
* Humanities and Social Science Electronic Thesaurus or HASSET  (UK Data Archives)
* Government of Canada Core Subject Thesaurus (LAC)
* LIO Keyword List (Ontario Ministry of Natural Resources)
* General Multilingual Environmental Thesaurus or GEMET (European Environment Information and Observation Network)

While the Keywords Task Group was unable to find and recommend just one of these thesauri as a comprehensive source of theme keywords for describing multi disciplinary datasets, the Group did have better results using a combination of two thesauri.  The Task Group recommends the following two thesauri:

1. Government of Canada Core Subject Thesaurus (LAC). The LAC resource was selected because it is of Canadian origin, is bilingual, and is supported and maintained by a Government of Canada institution that is authoritative and respected by library and archival communities.  The developers of this resource claim that: "All fields of knowledge are represented in the thesaurus, to varying degrees. Because of the great variety of subjects covered by the thesaurus, its terminology is rather general. By design, it does not include specialized terminology used in specific and limited disciplines."  The keyword strength of this resource tends towards those topics of interest to the federal government: e.g., economy, culture, education, health, and justice/law.

2. LIO keyword list (Ontario Ministry of Natural Resources. This list is of Canadian origin and is supported and maintained by a leading land-based ministry within the Government of Ontario.   Although this is simply a list of keywords, LIO is currently preparing to incorporate these keywords into the departmental thesaurus maintained by MNR's Library.  LIO is also planning to fund the conversion of this thesaurus, with its built-in keyword relationships, into both official languages.  The List gave excellent results as a source of relevant keywords when applied against a set of test geospatial datasets.  The keyword strength of this resource is the environment with a high degree of specialized terminology in this field.

The Keywords Task Group considers that these two resources should, in combination, provide a rich source of Canadian-sourced general and subject-specific keywords that will adequately describe the kinds of datasets that will most likely be accessible through the OCUL Geospatial Portal.  There are no known intellectual property issues associated with the Portal's use of these two resources since permission has been given to integrate them into our delivery system.

For those occasions when the recommended thesauri prove to be inadequate or when supplemental enrichment is felt necessary, the Group recommends the creation and maintenance of a locally maintained keyword list with built-in relationships (i.e., a thesaurus). This is the approach taken by GeoConnections Discovery Portal and by Go-Geo!, a cooperative effort between EDINA National Data Centre, University of Edinburgh, and the UK Data Archive, University of Essex.  Geospatial Portal project management must ensure that the list is kept reasonably short, that new keywords are evaluated and vetted before they are accepted, and that new keywords are properly incorporated into a schema of keyword relationships. There must also be a mechanism in place to ensure that keywords assigned to new or revised datasets acquired by the Geospatial Portal are reviewed and evaluated.   Theme keywords that are not included in LIO, LAC or the local list should be examined case by case and not routinely rejected.

Appendix C

Place Name Keywords

The Group began by examining place name gazetteers, some of which include millions of place names for locations around the world; for example, the Alexandria Digital Library Project provides access to 5.9 million names. Some of these comprehensive resources include only Canadian names (e.g., the Geographical Names of Canada), only US names (Geographic Names Information System, and others are worldwide in scope. All of these gazetteers include place names for political and administrative features as well as physical features.

The Group looked at other sources of place names. GeoConnections Discovery Portal offers data providers with several options for their choice of place name keywords. They may select from the CEONET list of Canadian names at the national, regional and provincial levels (e.g., Canada, Atlantic Provinces, Saskatchewan, Toronto Region) and/or they may choose from the Global Change Master Directory’s list of location keywords at the global, continental, regional, country, and province/state (Canada and US only) levels; examples at the regional level include Western Asia, Middle East, and Amazonia. These GCMD location keywords are, of course, also available for use by GCMD data providers. The LIO Data Directory uses political place names provided by the Ontario Ministry of Municipal Affairs.

Lastly the Group examined ESRI Canada’s Geography Network <http://www.geographynetwork.ca/> and Go-Geo! (UK academic Spatial Data Infrastructure) <http://www.gogeo.ac.uk/cgi-bin/index.cgi>. Upon further investigation it was determined that the Geography Network does not control place name vocabulary. Data providers are free to use place names of their own choosing. Go-Geo! Resource Discovery Tool directs data providers to select keywords from the embedded UNESCO Thesaurus. However this thesaurus is a source of theme keywords only. Although there are no place name keywords in Go-Geo! metadata records it is still possible to do place name, post code and grid coordinate searches. Place names derived from the geoXwalk Gazetteer Project <http://hds.essex.ac.uk/geo-X-walk/> are used to retrieve metadata records, but this project is a source of place names for Britain and Ireland only.

****Resources Examined: Gazetteers****

* Geographical Names of Canada Data Base (Natural Resources Canada): <http://geonames.nrcan.gc.ca/index_e.php>
* GeoNames (GeoNames.org): <http://www.geonames.org>
* GEONet Names Server (US National Geospatial Intelligence Agency): <http://earth-info.nga.mil/gns/html/index.html>
* Geographic Names Information System (US Board on Geographic Names): <http://geonames.usgs.gov/pls/gnispublic/f?p=116:1:2437354550198076>
* Getty Thesaurus of Geographic Names Online (J Paul Getty Trust): <http://www.getty.edu/research/conducting_research/vocabularies/tgn>
* Alexandria Digital Library Gazetteer Development (UC Santa Barbara): <http://www.alexandria.ucsb.edu/gazetteer/>

Resources Examined: Other Sources of Place Names

* GeoConnections Discovery Portal (Canadian Geospatial Data Infrastructure): <http://geodiscover.cgdi.ca/gdp/search?action=searchForm&entryType=productCollection&formType=basic>
* Global Change Master Directory (US NASA): <http://gcmd.nasa.gov/> and <http://gcmd.gsfc.nasa.gov/Resources/valids/archives/GCMD_Location_Keywords.pdf>
* LIO Data Directory (Ontario Ministry of Natural Resources): <http://lioapp.lrc.gov.on.ca/edwin/edwin.asp>

The Keywords Task Group advises that some of the place name keywords in a metadata record should be controlled vocabulary but that other keywords may be freely assigned. The controlled names should be those that apply at a higher geographic level; for example, keywords that provide locational information at the continental, country major region, or provincial/state levels. For national level datasets or provincial level datasets, such higher level keywords may be all that are needed. A CanVec layer that provides seamless coverage for all of Canada would only require place name keywords for Canada and each of the Canadian provinces and territories. For county or municipal level datasets, it might suffice to use only natural language place name keywords. Thus, a zoning boundaries vector layer for eastern part of Toronto might be described variously as Toronto, Toronto East, or eastern Toronto; but a search using the key “Toronto” would find all of these targets.

More precise retrieval based on location can be achieved by using the spatial extents information in the record, thus enabling graphic/map-based retrieval. An alternative to searches based on place name keywords and to searches based on graphic means is free-text searching for place names in the full record. This latter is probably the best approach for retrieving datasets that relate to physical features such as river watersheds, drumlin fields, or wetlands; for these ill-defined features the assignment of authoritative place name keywords might be more difficult and less useful.

The Group recommends the following two resources for place names when controlled vocabulary is useful:

* GeoConnections Discovery Portal’s CEONET list of place names for Canadian datasets *[Note, this list later became unavailable]*
* Global Change Master Directory’s Location Keywords for non-Canadian datasets and for global and other higher level geographies (e.g., world datasets, North American datasets)

Other place name keywords can be assigned without control and at the discretion of the metadata creator or data producer. This is the approach taken by the GeoConnections Discovery Portal; such keywords appear in the metadata record under the category of “Place Keyword Thesaurus: none.”

Both of these two place name resources are embedded within the GeoConnections Discovery Portal. The CEONET list was developed by the Canadian Geospatial Data Infrastructure as a source of standardized place name keywords for Canadian datasets. The GCMD list was developed by NASA as a source of standardized place name keywords for datasets for all parts of the world. These two lists are short, easy to use, and readily available. Neither is bilingual but that problem is easily resolved since little effort would be needed to translate them into French language, if necessary.

The Task Group has agreed that the use of more complex gazetteer services is unnecessary and not particularly useful. Some of these services are not freely available: for example, there are charges associated with the use of the Geographical Names of Canada Data Base and the Getty Thesaurus. Complicating issues at this level might involve place name changes including new names, merged names, discontinued names, and so on; one would therefore need to be concerned about gazetteer updates.

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