

North Carolina Department of Transportation (NCDOT)

Metadata Content Standard for Geospatial Data

Date	Change Description	Approved By
12/8/2008	Initial document (Version 1.0)	GIS Unit Manager
12/3/2010	Recommendations from Data Quality Group (Version 1.1.3)	GIS Data Quality Group
5/26/2017	Update to align with new NC Profile of ISO 1911**	GIS Spatial Data Mgt

INTRODUCTION

Metadata is a set of information that captures and describes the basic characteristics of a data set or an information resource. The metadata record describes the 'who, what, when, where, why and how' of the associated data. Geospatial metadata is commonly used to document geospatial data sets but can also be used to document geospatial resources including mapping applications, data models, and web based services. Metadata allows users of geospatial data to find the information and data they need and determine how best to use it.

The North Carolina Geographic Information Coordinating Council (GICC) formally adopted the "State and Local Government Metadata Profile", based on the ISO 1911** suite of geospatial metadata standards, as the current recommended standard for compliant geospatial metadata for North Carolina state agencies and local governments. The International Organization for Standardization (ISO) is the world's foremost developer of voluntary international standards. By adopting the ISO series of standards, state agencies and local governments ensure their metadata will be published and searched in a consistent manner by agencies, organizations, and individuals throughout the world.

OBJECTIVE

The objective of this standard is to provide a common set of terminology and definitions for the documentation of NCDOT digital geospatial data. The requirements for metadata content are intended to ensure data produced for or by the North Carolina Department of Transportation (NCDOT) meet the FGDC and GICC standards and guidelines.

SCOPE AND APPLICABILITY

This standard was developed from the perspective of defining the information required by a prospective user to determine the availability of a set of geospatial data, to determine the fitness of the set geospatial data for an intended use, to determine the means of accessing the set of geospatial data, and to successfully transfer the set of geospatial data. As such, the standard establishes the names of data elements to be used for these purposes, the definitions of these data elements, and information about the values that are to be provided for the data elements. The standard does not specify the means by which this information is organized in a computer system or in a data transfer, or the means by which this information is transmitted, communicated, or presented to the user. The ESRI GIS software (ArcGIS) has tools to assist in maintaining the metadata associated with a geospatial dataset, but is not the only tool available. This standard is applicable to all NCDOT users of enterprise geospatial datasets and services.

CONFORMANCE

The NCDOT metadata content standard has been developed to assist in the creation of metadata. This standard includes required elements of metadata for geospatial datasets and services. The [table of elements](#) lists and defines the specific mandatory and optional (recommended) metadata elements identified by the NC metadata community as necessary for the effective discovery and application of geospatial data resources. Metadata records that include all NC State and Local Government Profile mandatory elements comply with the minimum requirements of both ISO 19115 and ISO 19115-1. Metadata records that include all NC State and Local Government Profile elements (required and optional) comply with ISO 19115, ISO 19115-1, and the FGDC Content Standard for Digital Geospatial Metadata (CSDGM).

REFERENCES

This standard is meant to work in conjunction with the following NCDOT spatial data standards:

- [NCDOT Base Geospatial Standard](#)
- NCDOT Geospatial Data Collection & Acquisition Standard
- NCDOT Geospatial Data Publication Standard

This standard is compatible with other North Carolina state geospatial standards maintained here:

<https://it.nc.gov/gicc-standards-and-best-practices>

For more information on the FGDC ISO standard, go to <http://www.fgdc.gov/metadata>.

STANDARDS DEVELOPMENT PROCESS

The process for development of this standard shall be in accordance with policies of the NCDOT GIS Unit.

MAINTENANCE AUTHORITY

Level of responsibility

The GIS Unit at NCDOT is responsible for maintenance of this standard.

Contact Information:

Address questions concerning this standard to:

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Implementing the State and Local Government Metadata Profile

The adoption of a new ISO based metadata standard offers an opportunity for agencies that do not currently maintain standardized metadata to engage in compliant practice. Agencies that currently maintain metadata will have an opportunity to transition from their current CSDGM template to the current standard allowing them to document additional data resources (map services, geospatial models, and applications).

NC Geospatial Metadata Profile Elements


Table 1 - Metadata for Geospatial Data provides a list of metadata elements considered minimal documentation for the discovery, maintenance, and application of geospatial data. For each element, a domain for values is specified and best practices are provided to guide users in the effective use of the metadata element.

Table 2 - Metadata for Geospatial Services provides a list of metadata elements considered minimal documentation for the discovery, maintenance, and application of geospatial services. Services are applications that store, distribute, view, manipulate or otherwise utilize geospatial data such as:

- Geospatial data catalogs such as data.NCOneMap.gov
- Geospatial community workspaces such as the national Geospatial Platform
- Web-mapping applications
- Online data viewers and processors

Table 1 - Metadata for Geospatial Data

Legend:

 NC Profile and ISO required

Optional and/or CSDGM required

Element	Data Type	NC Best Practice
Title	Free text	<ul style="list-style-type: none"> • Provide a descriptive, unique, name to convey the nature of the data. At a minimum, address: what, where and when. • Avoid acronyms and abbreviations that are not commonly understood though a filename or other identifying reference can be included <i>in addition to</i> the descriptive content. Example: <i>Environmental Sensitivity Index (ESI) Scrub-Shrub and Wetlands, Geographic, Wilmington NC, NAD83, North Carolina Department of Environment and Natural Resources (NCDENR) 2001 [esi_scrub-shrub_wetland_NCDENR_2001]</i>
Publication Date	Date	<ul style="list-style-type: none"> • Provide the date that the data was published or otherwise finalized. • Additional, optional, dates can be included to specify the date when the data was first created, a revision date or the other date type as specified by the <i>Date Type Code</i> described below • Format = YYYY-MM-DD or YYYYMMDD. If the day is not known, use YYYY-MM. If the month is not known, use YYYY. If the date is not known, use 'unknown' in CSDGM and, in ISO, employ the xml attribute nilReason as a means of entering text in a date only field, e.g. <date nilReason="unknown"/> • Do not specify a range of dates for the publication date, e.g. YYYY-YYYY. • Do not use YYYYMM because it is indistinguishable from the incorrect, but still used, YYMMDD.
Date Type	Date Type Code = 'publication'	<ul style="list-style-type: none"> • ISO metadata only – no need to specify if using CSDGM • Used to designate the type of each <i>Date</i> listed • A 'publication' <i>Date</i> is required
Responsible Party Organization Name	Free text	<ul style="list-style-type: none"> • Provide the <i>Organization Name</i> of the agency that serves as legal custodian of the data • Additional, optional, <i>Responsible Party (name or organization)</i> can be included to specify: <ul style="list-style-type: none"> – a secondary or more specific office or staff position that serves as a point of contact for questions about the data (role=pointOfContact) – collaborating organizations/agencies, vendors who created the data, entities that distribute the data, individuals or agencies that have processed the data, and other responsible parties. • Spell out acronyms and include sufficient information, e.g. parent organizations or state, to uniquely identify the <i>Responsible Party</i>. Examples: "North Carolina Dept. of Transportation (NCDOT), Division of Highways, Technical Services " "Wake County NC, Geographic Information Services Division"
Responsible Party Role	Role Code = 'custodian' or	<ul style="list-style-type: none"> • ISO metadata only – no need to specify if using CSDGM • Used to designate the specific role of each <i>Responsible Party</i> listed

Element	Data Type	NC Best Practice
	'pointOfContact'	<ul style="list-style-type: none"> • A 'custodian' and/or 'pointOfContact' is required
Online Linkage	URL	<ul style="list-style-type: none"> • Provide a URL address that provides access, preferably direct access, to the data • NC OneMap geoportal requires an online linkage to the data
Abstract	Free text	<ul style="list-style-type: none"> • Provide a description of the data content and features including data application (GIS, CAD, image, etc.), geographic coverage, time period of content, and special data characteristics, limitations and information that will aid data consumers in determining if the data is relevant to their intended application. • List most important information first as some applications will display only first 150 – 200 characters of the abstract.
Status	Progress Code	<ul style="list-style-type: none"> • Indicate the status of the data, e.g. completed, ongoing, planned, etc. • Indicate 'completed' if the data is finalized and not continually updated. • Indicate 'onGoing' if the data is being actively and continually updated.
Maintenance and Update Frequency	Maintenance Frequency Code	<ul style="list-style-type: none"> • Indicate the value in the Code List that best describes how often the data is updated • If the status of the data is 'completed': <ul style="list-style-type: none"> - Indicate 'asNeeded' if staff are available to make as-needed changes (e.g., to correct errors) - Indicate 'notPlanned' if staff do not foresee making any changes. • If the status of the data is 'onGoing': <ul style="list-style-type: none"> - Indicate the most applicable value to describe the known frequency of planned updates • If the frequency of updates is not amongst the Code List values, e.g. every two months, indicate 'periodic'
Theme Keywords	Free text & Keyword Type Code = 'theme'	<ul style="list-style-type: none"> • Provide a robust set of descriptive theme-related keywords • Include broad and specific-terms, e.g. 'wetlands', 'salinity' • Select terms from relevant standardized vocabularies/thesauri when possible • If using CSDGM, include one or more ISO Topic Categories
Use Constraints	Free text	<ul style="list-style-type: none"> • Indicate any restrictions associated with using the data. <p>Examples:</p> <ul style="list-style-type: none"> • 'The locations in this data were not surveyed and should not be used for legal purposes' • 'Although these data have been processed successfully on a computer system at NCDEQ, no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data to evaluate data set limitations, restrictions, or intended use. NC DEQ shall not be held liable for improper or incorrect use of the data described and/or contained herein'

Element	Data Type	NC Best Practice
Topic Category	Topic Category Code	<ul style="list-style-type: none"> Indicate one or more high-level subjects., as specified by the Topic Category Code List If using the CSDGM, include one or more topic categories as theme keywords and specify the theme keyword thesaurus as 'ISO Topic Categories'
Geographic Extent: Bounding Box	Latitude / Longitude coordinate pairs	<ul style="list-style-type: none"> Document each: east, west, north, and south coordinate pairs Format = decimal degrees -90.0 < latitude < 90.0; -180.0 < longitude < 180.0
Temporal Extent of Data Content	Date	<ul style="list-style-type: none"> Indicate the date(s) for the content of the data. This value, typically corresponds to the collection, vs. the publication, of the data This may be a: <ul style="list-style-type: none"> single date, e.g. YYYY-MM-DD , YYYY-MM, or YYYY series of dates, e.g. YYYY-MM-DD, YYYY-MM-DD, YYYY-MM-DD) range of dates as illustrated below: <pre><extent> <TimePeriod > <beginPosition>2003-01-18 </beginPosition> <endPosition> indeterminatePosition="now" < endPosition /> </gml:TimePeriod> </gmd:extent></pre>
Feature Catalogue (Entities and Attributes)	Free text	<ul style="list-style-type: none"> Not required for imagery <p>ISO</p> <ul style="list-style-type: none"> ISO feature catalog information (entities and attributes) information can be documented within the metadata record, referenced as a standalone external resource, or indicated as internal to the dataset If included within the core record, utilize elements from the ISO 19110 Feature Catalog standard If referencing an external resource, the information may be in any format though use of ISO 19110 is highly encouraged. See Appendix 5 for more information about documenting features <p>CSDGM</p> <ul style="list-style-type: none"> If your dataset features are documented separately as a content specification (doc, pdf, etc.), data dictionary (xls, mdb, etc.), or other, provide an: <ul style="list-style-type: none"> Entity/Attribute Overview Description to describes the key features and Entity/Attribute Detail Citation with a link to the external documentation
Process Description	Free text	<ul style="list-style-type: none"> Provide a description of how the data were created and indicate source data used, where applicable This is a repeatable element so can be used to provide a single, compiled description or a series of process step descriptions
Spatial Reference Information	Free text	<p>ISO</p> <ul style="list-style-type: none"> Provide a Spatial Reference System Identifier (SRID) from

Element	Data Type	NC Best Practice
		<p>authoritative source such as the European Petroleum Survey Group (EPSG), More information at http://spatialreference.org/</p> <p>CSDGM</p> <p>Provide one of the following:</p> <ul style="list-style-type: none"> • Geographic Latitude & Longitude Resolutions, Coordinate Units • Map Projection Name, Parameters, Coordinate Resolution • Grid Coordinate System Name, Parameters, Coordinate Resolution • Local Description, Parameters, Coordinate Resolution
Metadata Creation Date	Date	<ul style="list-style-type: none"> • Indicate the date that the metadata record was created
Metadata Contact Name	Free text	<ul style="list-style-type: none"> • Provide the <i>Organization Name</i> of the agency that serves as the point of contact for the metadata record
Metadata Contact Role Code	Role Code = pointOfContact	<ul style="list-style-type: none"> • Used to designate the specific role of each <i>Responsible Party</i> listed • A <i>Metadata Contact</i> 'pointOfContact' is required
Optional and/or CSDGM Required Elements		
Purpose	Free text	<ul style="list-style-type: none"> • Explain why the data was created. This element can provide critical context for data that was created for a specific use and may not be appropriate for other, or more general, use
Currentness Reference	Free text	<ul style="list-style-type: none"> • Indicate if the Time Period of Content references that actual 'ground condition' during the time or some, later, 'publication date', e.g. the actual date of capture of an orthophoto or the delivery date for the orthophoto collection (publication)
Browse Graphic Filename (thumbnail)	Free text	<ul style="list-style-type: none"> • Provide a name for an available browse graphic image • For best results size the graphic at 200 pixels by 133 pixels, and save it as a PNG, JPEG, or GIF
Browse Graphic File Description	Free text	<ul style="list-style-type: none"> • Provide a description of the graphic
Browse Graphic File Type	Free text	<ul style="list-style-type: none"> • Indicate the browse graphic file type, e.g. PNG, JPEG, or GIF
Theme Keyword Thesaurus	Free text	<ul style="list-style-type: none"> • Recommended if any standardized vocabulary is associated with one or more theme keywords, e.g. 'Cowardin Wetland Classification', 'GCMD Science Keywords' • If no standardized vocabulary was used Thesaurus Name = 'none' • Note that thesauri are not limited to formal 'thesauri' and should include informal information documents and publications • Thesaurus requires a 'date' and a 'date type' in ISO 19115. No thesaurus date/date type is required for CSDGM and ISO 19115-1
Place Keyword	Free text & Keyword Type Code = 'place'	<ul style="list-style-type: none"> • Provide a robust set of descriptive place-related keywords • Include broad and specific-terms, e.g. 'North Carolina', 'Madison County', 'Marshall' • Include relevant regional references, e.g. 'Appalachia', 'Piedmont'
Place Keyword Thesaurus	Free text	<ul style="list-style-type: none"> • Indicate the standardized vocabulary associated with one or more place keywords, e.g. 'Geographic Names Information System (GNIS)', 'North Carolina Gazetteer'

Element	Data Type	NC Best Practice
		<ul style="list-style-type: none"> Note that thesauri are not limited to formal ‘thesauri’ and should include informal information documents and publications Thesaurus requires a ‘date’ and a ‘date type’ in ISO 19115. No thesaurus date/date type is required for CSDGM and ISO 19115-1
Access Constraints	Free text	<ul style="list-style-type: none"> Indicate any restrictions and legal prerequisites for accessing the data, e.g. environmentally sensitive information, personal data, intellectual property
Logical Consistency Report	Free text	<ul style="list-style-type: none"> Provide a description of any assessment performed to test the fidelity of the data attributes (database QA/QC) or the data structure (topological checks, i.e. RMS error)
Completeness	Free text	<ul style="list-style-type: none"> Provide a description of the omissions and selection criteria used to develop or generalize the data <p>Examples: “Federal Lands excluded” “Municipalities are defined as having populations >2500”</p>
Process Date	Date	<ul style="list-style-type: none"> Provide a date for the process. This can be a single, multiple or range of dates or ‘unknown’ or ‘not complete’ Date format YYYYMMDD
Metadata Contact Address (Type, City, State, Postal Code)	Free text	<ul style="list-style-type: none"> Provide the address information for the <i>Metadata Contact</i>
Metadata Contact Telephone	Free text	<ul style="list-style-type: none"> Indicate the ten-digit phone number at which the <i>Metadata Contact</i> can be reached.
Metadata Standard Name	Free text	<ul style="list-style-type: none"> Indicate the metadata standard to which the metadata record is in compliance. <p>Examples: “ISO 19115”, ‘ISO 19115-1”, or “ISO 19115-2” “FGDC Content Standard for Digital Geospatial Metadata (CSDGM)”</p>
Metadata Standard Version	Free text	<ul style="list-style-type: none"> Indicate the version of the metadata standard used <p>Examples: “ISO 19115:2003/Cor 1:2006” “ FGDC-STD-001-1998”</p>

Table 2 –Elements Required for Geospatial Services

Legend:

■ NC Profile and ISO required

■ Optional and/or CSDGM required

Element	Data Type	NC Best Practice
Service Specific Elements		
Metadata Scope	<u>Metadata Scope Code</u> = 'service'	<ul style="list-style-type: none"> Indicate that the metadata record applies to a 'service' (ISO assumes the metadata is for a dataset unless otherwise specified) If using CSDGM, indicate 'service' as the <i>Geospatial Data Presentation Form</i>
Service Type	Free text	<ul style="list-style-type: none"> The type of service that is being documented. No code list yet exists but OGC service types include: WMS, WFS, CSW, WCS, WMTS, KML and REST. Other free text values are permitted If using CSDGM, add the service type to the 'service' value in <i>Geospatial Data Presentation Form</i>
Additional Required Elements		
Title	Free text	<ul style="list-style-type: none"> Provide a descriptive, unique, name to convey the nature and content of the service Avoid acronyms & abbreviations if not commonly used Example: US National Wetlands Inventory (NWI) Map Server.
Publication Date	Date	<ul style="list-style-type: none"> Provide the date that the service was published or otherwise made available. Format = YYYY-MM-DD or YYYYMMDD. If the day is not known, use YYYY-MM. If the month is not known, use YYYY. If the date is not known, use 'unknown' in CSDGM and, in ISO, employ the xml attribute nilReason as a means of entering text in a date only field, e.g. <date nilReason="unknown"/> Do not specify a range of dates for the publication date, e.g. YYYY-YYYY. Do not use YYYYMM, which because it is indistinguishable from the incorrect, but still used, YYMMDD.
Date Type	<u>Date Type Code</u> = publication	<ul style="list-style-type: none"> ISO metadata only – no need to specify if using CSDGM Used to designate the type of each <i>Date</i> listed A 'publication' <i>Date</i> is required
Responsible Party / Originator	Free text	<ul style="list-style-type: none"> Provide the <i>Organization Name</i> of the agency that manages the service Additional, optional, <i>Responsible Parties</i> can be included to specify: <ul style="list-style-type: none"> a secondary or more specific office or staff position that serves as a point of contact for questions about the service collaborating organizations/agencies, vendors who contribute to or help to manage the service. Spell out acronyms and include sufficient information, e.g. parent

Element	Data Type	NC Best Practice
		organizations or state, to uniquely identify the <i>Responsible Party</i> . Examples: “North Carolina Dept. of Transportation (NCDOT), Division of Highways, Technical Services”
Responsible Party Role	Role Code = ‘custodian’ or ‘pointOfContact’	<ul style="list-style-type: none"> • ISO metadata only – no need to specify if using CSDGM • Used to designate the specific role of each <i>Responsible Party</i> listed • A ‘custodian’ or ‘pointOfContact’ is <i>Responsible Party</i> required.
Online Linkage	URL	<ul style="list-style-type: none"> • Provide a URL address that provides access, preferably direct access, to the service • NC OneMap geoportal requires an online linkage to the service
Online Function Code	Function Code	<ul style="list-style-type: none"> • ISO metadata only – no need to specify if using CSDGM • Used to designate the specific function of the Service <i>Online Resource</i>
Abstract	Free text	<ul style="list-style-type: none"> • Provide a description of the service content, extent, and key operating features. Include information about how the data are organized, formatted, and distributed, e.g. tiles, collections, zip, tiff, etc. • List most important information first as some applications will display only first 150 – 200 characters of the abstract.
Theme Keywords	Free text	<ul style="list-style-type: none"> • Provide a robust set of descriptive theme-related keywords • Include broad and specific-terms, e.g. ‘wetlands’, ‘salinity’ • Select terms from relevant standardized vocabularies/thesauri when possible • If using CSDGM, include one or more ISO Topic Categories
Use Constraints	Free text	<ul style="list-style-type: none"> • Indicate any restrictions associated with using the service Examples: ‘The locations in this data were not surveyed and should not be used for legal purposes’ • ‘Although these data have been processed successfully on a computer system at NCDEQ, no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data to evaluate data set limitations, restrictions or intended use. NC DEQ shall not be held liable for improper or incorrect use of the data described and/or contained herein’
Geographic Extent: Bounding Box	Latitude / Longitude coordinate pairs	<ul style="list-style-type: none"> • Document each: east, west, north, and south coordinate pairs • Format = decimal degrees -90.0 < latitude < 90.0; -180.0 < longitude < 180.0
Metadata Creation Date	Date	Indicate the date that the metadata record was created
Metadata Contact Name	Free text	<ul style="list-style-type: none"> • Provide the <i>Organization Name</i> of the agency that serves as the point of contact for the metadata record.
Metadata Contact Role Code	Role Code = ‘pointOfContact’	<ul style="list-style-type: none"> • Used to designate the specific role of each <i>Responsible Party</i> listed • A <i>Metadata Contact</i> ‘pointOfContact’ is required.
Purpose	Free text	<ul style="list-style-type: none"> • Explain why the service was created and the intended use and user

Element	Data Type	NC Best Practice
		community. This element can provide critical context for data that was created for a specific use and may not be appropriate for other, or more general, use.
Currentness Reference	free text	<ul style="list-style-type: none"> Indicate if the Time Period of Content references that actual 'ground condition' during the time or some, later, 'publication date', e.g. the actual date of capture of an orthophoto or the delivery date for the orthophoto collection (publication)
Theme Keyword Thesaurus	Free text	<ul style="list-style-type: none"> Indicate any standardized vocabulary associated with one or more theme keywords, e.g. 'Cowardin Wetland Classification', 'GCMD Science Keywords' If no standardized vocabulary was used Thesaurus Name = 'none' Note that thesauri are not limited to formal 'thesauri' and should include informal information documents and publications ISO 19115 requires a Thesaurus 'date' and a 'date type'. No thesaurus date/date type is required for CSDGM and ISO 19115-1
Place Keyword	Free text	<ul style="list-style-type: none"> Optional but recommended Provide a robust set of descriptive place-related keywords Include broad and specific-terms, e.g. 'North Carolina', 'Madison County', 'Marshall' Include relevant regional references, e.g. 'Appalachia', 'Piedmont'
Place Keyword Thesaurus	Free text	<ul style="list-style-type: none"> Optional and recommended if standardized vocabulary used Indicate any standardized vocabulary associated with one or more theme keywords, e.g. 'Cowardin Wetland Classification', 'GCMD Science Keywords' If no standardized vocabulary was used Thesaurus Name = 'none' Note that thesauri are not limited to formal 'thesauri' and should include informal information documents and publications Thesaurus requires a 'date' and a 'date type' in ISO 19115. No thesaurus date/date type is required for CSDGM and ISO 19115-1
Access Constraints	Free text	<ul style="list-style-type: none"> Indicate any restrictions and legal prerequisites for accessing the service, e.g. environmentally sensitive information, personal data, intellectual property
Metadata Contact Address (Type, City, State, Postal Code)	Free text	<ul style="list-style-type: none"> Provide the address information for the <i>Metadata Contact</i>
Metadata Standard Name	Free text	<ul style="list-style-type: none"> Indicate the metadata standard to which the metadata record is in compliance. Examples: 'ISO 19115', 'ISO 19115-1', or 'ISO 19115-2' 'FGDC Content Standard for Digital Geospatial Metadata (CSDGM)'
Metadata Standard Version	Free text	<ul style="list-style-type: none"> Indicate the version of the metadata standard used Examples: "2003/Cor.1:2006" "1998:Version 2"

Appendix 1 Code Lists

The following is a subset of code lists and values relevant to the NC Metadata Profile. NOAA provides a full ISO 19115 and 19115-2 code list at:

https://geo-ide.noaa.gov/wiki/index.php?title=ISO_19115_and_19115-2_CodeList_Dictionaries

Some Code Lists are expanded in ISO 19115-1 and will be updated when the standard is approved for use.

[Date Type Code](#)

[Online Function Code](#)

[Role Code](#)

[Topic Category Code](#)

[Progress Code](#)

[Keyword Type Code](#)

[Maintenance Frequency Code](#)

[Metadata Scope Code](#)

Date Type Code (Date Type element)

DateType Code	Description
creation	when the resource was brought into existence
publication	when the resource was issued
revision	when the resource was improved or amended

Online Function Code (Function element)

Online Function Code	Description
download	online instructions for transferring data from one storage device to another
information	online information about the resource
offlineAccess	online instructions for requesting the resource from the provider
order	online order process for obtaining the resource
search	online search interface for seeking out information about the resource

Role Code (Responsible Party Role element)

Responsible Party Role Code	Description
custodian	party that accepts accountability and responsibility for the data and ensures appropriate care and maintenance of the resource
pointOfContact	party who can be contacted for acquiring knowledge about or acquisition of the resource

Topic Category Code (Topic Category element)

Topic Category Code	Description	Examples
farming	rearing of animals and/or cultivation of plants.	agriculture, irrigation, aquaculture, plantations, herding, pests and diseases affecting crops and livestock
biota	flora and/or fauna in natural environment.	wildlife, vegetation, biological sciences, ecology, wilderness, sealife, wetlands, habitat
boundaries	legal land descriptions.	political and administrative boundaries
climatologyMeteorologyAtmosphere	processes and phenomena of the atmosphere.	cloud cover, weather, climate, atmospheric conditions, climate change, precipitation
economy	economic activities, conditions and employment.	production, labour, revenue, commerce, industry, tourism and ecotourism, forestry, fisheries, commercial or subsistence hunting, exploration and exploitation of resources such as minerals, oil and gas
elevation	height above or below sea level.	altitude, bathymetry, digital elevation models, slope, derived products
environment	environmental resources, protection and conservation.	environmental pollution, waste storage and

		treatment, environmental impact assessment, monitoring environmental risk, nature reserves, landscape
geoscientificInformation	information pertaining to earth sciences.	geophysical features and processes, geology, minerals, sciences dealing with the composition, structure and origin of the earth's rocks, risks of earthquakes, volcanic activity, landslides, gravity information, soils, permafrost, hydrogeology, erosion
health	health, health services, human ecology, and safety.	disease and illness, factors affecting health, hygiene, substance abuse, mental and physical health, health services
imageryBaseMapsEarthCover	base maps.	land cover, topographic maps, imagery, unclassified images, annotations
intelligenceMilitary	military bases, structures, activities.	barracks, training grounds, military transportation, information collection
inlandWaters	inland water features, drainage systems and their characteristics.	rivers and glaciers, salt lakes, water utilization plans, dams, currents, floods, water quality, hydrographic charts
location	positional information and services.	addresses, geodetic networks, control points, postal zones and services, place names
oceans	features and characteristics of salt water bodies (excluding inland waters).	tides, tidal waves, coastal information, reefs
planningCadastre	information used for appropriate actions	land use maps, zoning

	for future use of the land.	maps, cadastral surveys, land ownership
society	characteristics of society and cultures.	settlements, anthropology, archaeology, education, traditional beliefs, manners and customs, demographic data, recreational areas and activities, social impact assessments, crime and justice, census information
structure	man-made construction.	buildings, museums, churches, factories, housing, monuments, shops, towers
transportation	means and aids for conveying persons and/or goods.	roads, airports/airstrips, shipping routes, tunnels, nautical charts, vehicle or vessel location, aeronautical charts, railways
utilitiesCommunication	energy, water and waste systems and communications infrastructure and services.	hydroelectricity, geothermal, solar and nuclear sources of energy, water purification and distribution, sewage collection and disposal, electricity and gas distribution, data communication, telecommunication, radio, communication networks
extraterrestrial	region more than 100 km above the surface of the earth	space, planets
disaster	information related to disasters	site of the disaster, evacuation zone, disaster prevention facility, disaster relief activities

Progress Code (Status element)

Progress Code	Description
completed	production of the data has been completed
historicalArchive	data has been stored in an offline storage facility
obsolete	data is no longer relevant
onGoing	data is continually being updated
planned	fixed date has been established upon or by which the data will be created or updated
required	data needs to be generated or updated
underDevelopment	data is currently in the process of being created

Keyword Type Code (Keyword element)

Keyword Type Code	Description
discipline	identifies a branch of instruction or specialized learning
place	identifies a location
stratum	identifies the layer(s) of any deposited substance
temporal	identifies a time period
theme	identifies a subject or topic

Maintenance Frequency Code (Maintenance and Update Frequency element)

Maintenance Frequency Code	Description
continual	data is repeatedly and frequently updated
daily	data is updated each day
weekly	data is updated on a weekly basis
fortnightly	data is updated every two weeks
monthly	data is updated each month
quarterly	data is updated every three months
biannually	data is updated twice each year
annually	data is updated every year
asNeeded	data is updated as deemed necessary
irregular	data is updated in intervals that are uneven in duration
notPlanned	there are no plans to update the data
unknown	frequency of maintenance for the data is not known

Metadata Scope Code (for Services only)

Maintenance Scope Code	Description
service	information applies to a capability which a service provider entity makes available to a service user entity through a set of interfaces that define a behavior such as a use case