

Alaska Data Integration work group ISO Metadata Data Dictionary

***Model: ISO PM19115-2 Supported Fields V14
Project and Data Metadata***



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Summary: Data dictionary report of ISO 19115 ADlwG data metadata.

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gmd:CI_Address

Code

Address

Description Text

Location of the responsible individual or organization.

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------------------|-------------|---------------------|--------------|
| gmd:deliveryPoint | delPoint | gco:CharacterString | 0..* |
| gmd:city | city | gco:CharacterString | 0..1 |
| gmd:administrativeArea | adminArea | gco:CharacterString | 0..1 |
| gmd:postalCode | postCode | gco:CharacterString | 0..1 |
| gmd:country | gmd:country | gco:CharacterString | |
| gmd:electronicMailAddresses | eMailAdd | gco:CharacterString | 0..* |

Attribute: gmd:deliveryPoint

| | |
|-------------------------|--------------------------------|
| <i>Code</i> | delPoint |
| <i>Description Text</i> | Address line for the location. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:city

| | |
|-------------------------|-----------------------|
| <i>Code</i> | city |
| <i>Description Text</i> | City of the location. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:administrativeArea

| | |
|-------------------------|----------------------------------|
| <i>Code</i> | adminArea |
| <i>Description Text</i> | State, province of the location. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:postalCode

| | |
|-------------------------|---------------------------|
| <i>Code</i> | postCode |
| <i>Description Text</i> | ZIP or other postal code. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:country

| | |
|-------------------------|----------------------------------|
| <i>Code</i> | gmd:country |
| <i>Description Text</i> | Country of the physical address. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 3166 |

Attribute: gmd:electronicMailAddress

| | |
|-------------------------|--|
| <i>Code</i> | eMailAdd |
| <i>Description Text</i> | Address of the electronic mailbox of the responsible organization or individual. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

gmd:CI_Citation

| | |
|-------------------------|----------------------------------|
| <i>Code</i> | Citation |
| <i>Description Text</i> | Standardized resource reference. |

Attributes

| Name | Code | Data Type | Multiplicity |
|---------------------------|--------------|-------------------------|--------------|
| gmd:title | resTitle | gco:CharacterString | 1..1 |
| gmd:date | resRefDate | gmd:CI_Date | 1..* |
| gmd:edition | resEd | gco:CharacterString | 0..1 |
| gmd:identifier | citId | gmd:MD_Identifier | 0..* |
| gmd:citedResponsibleParty | citRespParty | gmd:CI_ResponsibleParty | 0..* |
| gmd:presentationForm | presForm | codeList | |
| gmd:ISBN | isbn | gco:CharacterString | 0..1 |
| gmd:ISSN | issn | gco:CharacterString | 0..1 |

Attribute: gmd:title

| | |
|-------------------------|--|
| <i>Code</i> | resTitle |
| <i>Description Text</i> | Name by which the cited resource is known. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:date

| | |
|-------------------------|--|
| <i>Code</i> | resRefDate |
| <i>Description Text</i> | Reference date for the cited resource. |
| <i>Data Type</i> | gmd:CI_Date |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

Attribute: gmd:edition

| | |
|-------------------------|--------------------------------|
| <i>Code</i> | resEd |
| <i>Description Text</i> | Version of the cited resource. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:identifier

| | |
|-------------------------|--|
| <i>Code</i> | citId |
| <i>Description Text</i> | Value uniquely identifying an object within a namespace. |
| <i>Data Type</i> | gmd:MD_Identifier |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:citedResponsibleParty

| | |
|-------------------------|--------------------------------------|
| <i>Code</i> | citRespParty |
| <i>Description Text</i> | Name and position for an individual. |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:presentationForm

| | |
|-------------------------|--|
| <i>Code</i> | presForm |
| <i>Description Text</i> | Mode in which the resource is represented. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | CI_PresentationFormCode |

Attribute: gmd:ISBN

| | |
|-------------------------|-------------------------------------|
| <i>Code</i> | isbn |
| <i>Description Text</i> | International Standard Book Number. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:ISSN

| | |
|-------------------------|---------------------------------------|
| <i>Code</i> | issn |
| <i>Description Text</i> | International Standard Serial Number. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:CI_Contact

| | |
|-------------------------|---|
| <i>Code</i> | Contact |
| <i>Description Text</i> | Information required to enable contact with the responsible person and/or organization. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------------------|---------------|-----------------------|--------------|
| gmd:phone | cntPhone | gmd:CI_Telephone | 0..1 |
| gmd:address | cntAddress | gmd:CI_Address | 0..1 |
| gmd:onlineResource | contOnlineRes | gmd:CI_OnlineResource | 0..1 |
| gmd:contactInstructions | contInstr | gco:CharacterString | 0..1 |

Attribute: gmd:phone

| | |
|-------------------------|--|
| <i>Code</i> | cntPhone |
| <i>Description Text</i> | Telephone number at which the organization or individual may be contacted. |
| <i>Data Type</i> | gmd:CI_Telephone |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:address

| | |
|-------------------------|--|
| <i>Code</i> | cntAddress |
| <i>Description Text</i> | Physical and email address at which the organization or individual may be contacted. |
| <i>Data Type</i> | gmd:CI_Address |
| <i>Mandatory</i> | No |

| | |
|---------------------|--------|
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:onlineResource

| | |
|-------------------------|---|
| <i>Code</i> | contOnlineRes |
| <i>Description Text</i> | On-line information that can be used to contact the individual or organization. |
| <i>Data Type</i> | gmd:CI_OnlineResource |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:contactInstructions

| | |
|-------------------------|---|
| <i>Code</i> | contInstr |
| <i>Description Text</i> | Supplemental instructions on how or when to contact the individual or organization. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:CI_Date

| | |
|-------------------------|--|
| <i>Code</i> | DateRef |
| <i>Description Text</i> | References date and event used to describe it. |

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------|-------------|-----------|--------------|
| gmd:date | refDate | gco:Date | 1..1 |
| gmd:dateType | refDateType | codeList | |

Attribute: gmd:date

| | |
|-------------------------|--|
| <i>Code</i> | refDate |
| <i>Description Text</i> | Reference date for the cited resource. |
| <i>Data Type</i> | gco:Date |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:dateType

| | |
|-------------------------|--------------------------------|
| <i>Code</i> | refDateType |
| <i>Description Text</i> | Event used for reference date. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | CI_DateTypeCode |

gmd:CI_OnlineResource

| | |
|-------------------------|--|
| <i>Code</i> | OnlineRes |
| <i>Description Text</i> | Information about on-line sources from which the dataset, specification, or community profile name and extended metadata elements can be obtained. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------|--------------|---------------------|--------------|
| gmd:linkage | linkage | gmd:URL | 1..1 |
| gmd:protocol | gmd:protocol | gco:CharacterString | 0..1 |
| gmd:name | orName | gco:CharacterString | 0..1 |
| gmd:description | orDesc | gco:CharacterString | 0..1 |
| gmd:function | orFunc | gco:CharacterString | 0..1 |

Attribute: gmd:linkage

| | |
|-------------------------|--|
| <i>Code</i> | linkage |
| <i>Description Text</i> | Location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme such as http://www.statkart.no/isotc211. |
| <i>Data Type</i> | gmd:URL |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:protocol

| | |
|-------------------------|---------------------|
| <i>Code</i> | gmd:protocol |
| <i>Description Text</i> | |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:name

| | |
|-------------------------|------------------------------|
| <i>Code</i> | orName |
| <i>Description Text</i> | Name of the online resource. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:description

| | |
|-------------------------|--|
| <i>Code</i> | orDesc |
| <i>Description Text</i> | Detailed text description of what the online resource is/does. |
| <i>Data Type</i> | gco:CharacterString |

| | |
|---------------------|--------|
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:function

| | |
|-------------------------|---|
| <i>Code</i> | orFunc |
| <i>Description Text</i> | Code for function performed by the online resource. |
| <i>Data Type</i> | codelist |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | CI_OnLineFunctionCode |

gmd:CI_ResponsibleParty

| | |
|-------------------------|---|
| <i>Code</i> | RespParty |
| <i>Description Text</i> | Identification of, and means of communication with, person(s) and organizations associated with the dataset. Note: This instance identifies the party responsible for the metadata record. |

Attributes

| Name | Code | Data Type | Multiplicity |
|----------------------|-----------|---------------------|--------------|
| gmd:individualName | rpIndName | gco:CharacterString | 0..1 |
| gmd:organizationName | rpOrgName | gco:CharacterString | 0..1 |
| gmd:positionName | rpPosName | gco:CharacterString | 0..1 |
| gmd:contactInfo | rpCntInfo | gmd:CI_Contact | 0..1 |
| gmd:role | gmd:role | codeList | |

Attribute: gmd:individualName

| | |
|-------------------------|---|
| <i>Code</i> | rpIndName |
| <i>Description Text</i> | Name of the responsible person – surname, given name, title separated by a delimiter. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:organizationName

| | |
|-------------------------|---------------------------------------|
| <i>Code</i> | rpOrgName |
| <i>Description Text</i> | Name of the responsible organization. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:positionName

| | |
|-------------------------|---|
| <i>Code</i> | rpPosName |
| <i>Description Text</i> | Role or position of the responsible person. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:contactInfo

| | |
|-------------------------|-----------------------------------|
| <i>Code</i> | rpCntInfo |
| <i>Description Text</i> | Address of the responsible party. |
| <i>Data Type</i> | gmd:CI_Contact |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:role

| | |
|-------------------------|--|
| <i>Code</i> | gmd:role |
| <i>Description Text</i> | Function performed by the responsible party. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | CI_RoleCode |

gmd:CI_Telephone

| | |
|-------------------------|--|
| <i>Code</i> | Telephone |
| <i>Description Text</i> | Telephone numbers for contacting the responsible individual or organization. |

Attributes

| Name | Code | Data Type | Multiplicity |
|---------------|----------|---------------------|--------------|
| gmd:voice | voiceNum | gco:CharacterString | 0..* |
| gmd:facsimile | faxNum | gco:CharacterString | 0..* |

Attribute: gmd:voice

| | |
|-------------------------|--|
| <i>Code</i> | voiceNum |
| <i>Description Text</i> | Telephone number by which individuals can speak to the responsible organization or individual. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:facsimile

| | |
|-------------------------|---|
| <i>Code</i> | faxNum |
| <i>Description Text</i> | Telephone number of a facsimile machine for the responsible organization or individual. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

gmd:contentInformation

| | |
|-------------------------|---|
| <i>Code</i> | ContInfo |
| <i>Description Text</i> | The block contains a brief description of the dataset and information about how to locate the provider and/or ISO FeatureCatalogue. |

Choose a subtype.

gmd:EX_BoundingPolygon

| | |
|-------------------------|--|
| <i>Code</i> | BoundPoly |
| <i>Description Text</i> | Boundary enclosing the dataset, expressed as the closed set of (x,y) coordinates of the polygon (last point replicates the first point). |

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------------|------------|------------------------|--------------|
| gmd:extentTypeCode | exTypeCode | gco:Boolean | 0..1 |
| gmd:polygon | polygon | choose polygon subtype | 1..* |

Attribute: gmd:extentTypeCode

| | |
|-------------------------|--|
| <i>Code</i> | exTypeCode |
| <i>Description Text</i> | Indication of whether the bounding polygon encompasses an area covered by the data or an area where the data is not present. |
| <i>Data Type</i> | gco:Boolean |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:polygon

| | |
|-------------------------|--|
| <i>Code</i> | polygon |
| <i>Description Text</i> | Set of points defining the bounding polygon. |
| <i>Data Type</i> | choose polygon subtype |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

gmd:EX_Extent*Code* Extent*Description Text* Information about horizontal, vertical, and temporal extent.

count(description + geographicElement + temporalElement + verticalElement) > 0

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------------|---------|----------------------------------|--------------|
| gmd:description | exDesc | gco:CharacterString | 0..1 |
| gmd:geographicElement | geoEle | choose geographicElement subtype | 0..* |
| gmd:temporalElement | tempEle | gmd:EX_TemporalExtent | 0..* |
| gmd:verticalElement | vertEle | gmd:EX_VerticalExtent | 0..* |

Attribute: gmd:description

| | |
|-------------------------|---|
| <i>Code</i> | exDesc |
| <i>Description Text</i> | Spatial and temporal extent for the referring object. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:geographicElement

| | |
|-------------------------|--|
| <i>Code</i> | geoEle |
| <i>Description Text</i> | Provides geographic component of the extent of the referring object. |
| <i>Data Type</i> | choose geographicElement subtype |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:temporalElement

| | |
|-------------------------|--|
| <i>Code</i> | tempEle |
| <i>Description Text</i> | Provides temporal component of the extent of the referring object. |
| <i>Data Type</i> | gmd:EX_TemporalExtent |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:verticalElement

| | |
|-------------------------|--|
| <i>Code</i> | vertEle |
| <i>Description Text</i> | Provides vertical component of the extent of the referring object. |

| | |
|---------------------|-----------------------|
| <i>Data Type</i> | gmd:EX_VerticalExtent |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

gmd:EX_GeographicBoundingBox

| | |
|-------------------------|---|
| <i>Code</i> | GeoBndBox |
| <i>Description Text</i> | Geographic position of the dataset. Note: This is only an approximate reference so specifying the coordinate reference system is unnecessary. |

Attributes

| Name | Code | Data Type | Multiplicity |
|------------------------|------------|-------------|--------------|
| gmd:extentTypeCode | exTypeCode | gco:Boolean | 0..1 |
| gmd:westBoundLongitude | westBL | gco:Decimal | 1..1 |
| gmd:eastBoundLongitude | eastBL | gco:Decimal | 1..1 |
| gmd:southBoundLatitude | southBL | gco:Decimal | 1..1 |
| gmd:northBoundLatitude | northBL | gco:Decimal | 1..1 |

Attribute: gmd:extentTypeCode

| | |
|-------------------------|--|
| <i>Code</i> | exTypeCode |
| <i>Description Text</i> | Indication of whether the bounding polygon encompasses an area covered by the data or an area where the data is not present. |
| <i>Data Type</i> | gco:Boolean |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:westBoundLongitude

| | |
|-------------------------|--|
| <i>Code</i> | westBL |
| <i>Description Text</i> | Western-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east). |
| <i>Data Type</i> | gco:Decimal |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:eastBoundLongitude

| | |
|-------------------------|--|
| <i>Code</i> | eastBL |
| <i>Description Text</i> | Eastern-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east). |
| <i>Data Type</i> | gco:Decimal |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:southBoundLatitude

| | |
|-------------------------|---|
| <i>Code</i> | southBL |
| <i>Description Text</i> | Southern-most coordinate of the limit of the dataset extent, expressed in latitude in decimal degrees (positive north). |
| <i>Data Type</i> | gco:Decimal |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:northBoundLatitude

| | |
|-------------------------|---|
| <i>Code</i> | northBL |
| <i>Description Text</i> | Northern-most coordinate of the limit of the dataset extent, expressed in latitude in decimal degrees (positive north). |
| <i>Data Type</i> | gco:Decimal |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:EX_GeographicDescription

| | |
|-------------------------|------------------------------|
| <i>Code</i> | GeoDesc |
| <i>Description Text</i> | Not described in this model. |

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------------------|-------|---------------|--------------|
| gmd:geographicIdentifier | geoId | MD_Identifier | 1..1 |

Attribute: gmd:geographicIdentifier

| | |
|-------------------------|---------------|
| <i>Code</i> | geoId |
| <i>Description Text</i> | |
| <i>Data Type</i> | MD_Identifier |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:EX_TemporalExtent

| | |
|-------------------------|--|
| <i>Code</i> | TempExtent |
| <i>Description Text</i> | Date and Time for the content of the dataset |

Attributes

| Name | Code | Data Type | Multiplicity |
|------------|--------|-----------------------------------|--------------|
| gmd:extent | exTemp | choose TM_Primitive subtype | 1..1 |

Attribute: gmd:extent

| | |
|-------------------------|-----------------------------|
| <i>Code</i> | exTemp |
| <i>Description Text</i> | Choose subtype. |
| <i>Data Type</i> | choose TM_Primitive subtype |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:EX_VerticalExtent

| | |
|-------------------------|-----------------------------|
| <i>Code</i> | VertExtent |
| <i>Description Text</i> | Vertical domain of dataset. |

Attributes

| Name | Code | Data Type | Multiplicity |
|------------------|--------------|-----------|--------------|
| gmd:minimumValue | vertMinVal | Real | 1..1 |
| gmd:maximumValue | vertMaxValue | Real | 1..1 |
| gmd:verticalCRS | vertCRS | (none) | 1..1 |

Attribute: gmd:minimumValue

| | |
|-------------------------|--|
| <i>Code</i> | vertMinVal |
| <i>Description Text</i> | Lowest vertical extent contained in the dataset. |
| <i>Data Type</i> | Real |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:maximumValue

| | |
|-------------------------|---|
| <i>Code</i> | vertMaxValue |
| <i>Description Text</i> | Highest vertical extent contained in the dataset. |
| <i>Data Type</i> | Real |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:verticalCRS

| | |
|-------------------------|--|
| <i>Code</i> | vertCRS |
| <i>Description Text</i> | Coordinate reference system for the vertical axis. |
| <i>Data Type</i> | (none) |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:geographicElement

| | |
|-------------|-----------|
| <i>Code</i> | GeoExtent |
|-------------|-----------|

Description Text Geographic area of the dataset.

gmd:identificationInfo

Code Ident
Description Text Basic information required to uniquely identify a resource, choose a subtype.

gmd:LI_Lineage

Code Lineage
Description Text Non-quantitative quality information ...
 Information about the events or source data used in constructing the data specified by the scope or lack of knowledge about lineage.
 count (processStep + source) > 0

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------|------------|---------------------|--------------|
| gmd:statement | statement | gco:CharacterString | 0..1 |
| gmd:processStep | prcStep | gmd:LI_ProcessStep | 0..* |
| gmd:source | dataSource | gmd:LI_Source | 0..* |

Attribute: gmd:statement

| | |
|-------------------------|--|
| <i>Code</i> | statement |
| <i>Description Text</i> | General explanation of the data producer's knowledge about the lineage of a dataset. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:processStep

| | |
|-------------------------|---|
| <i>Code</i> | prcStep |
| <i>Description Text</i> | Information about events in the life of a dataset specified by the scope. |
| <i>Data Type</i> | gmd:LI_ProcessStep |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:source

| | |
|-------------------------|---|
| <i>Code</i> | dataSource |
| <i>Description Text</i> | Information about the source data used in creating the data specified by the scope. |
| <i>Data Type</i> | gmd:LI_Source |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |

| | |
|---------------|--------|
| <i>Domain</i> | <None> |
|---------------|--------|

gmd:LI_ProcessStep

| | |
|-------------------------|---|
| <i>Code</i> | ProcessStep |
| <i>Description Text</i> | Information about an event or transformation in the life of a dataset including the process used to maintain the dataset. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------------------------|------------------------|---|--------------|
| gmd:description | stepDesc | gco:CharacterString | 1..1 |
| gmd:rationale | stepRat | gco:CharacterString | 0..1 |
| gmd:dateTime gmd:processor | stepDateTm stepPorc | gco:DateTime gmd:CI_ResponsibleParty | 0..* |

Attribute: gmd:description

| | |
|-------------------------|---|
| <i>Code</i> | stepDesc |
| <i>Description Text</i> | Description of the event, including related parameters or tolerances. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:rationale

| | |
|-------------------------|--|
| <i>Code</i> | stepRat |
| <i>Description Text</i> | Requirement or purpose for the process step. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:dateTime

| | |
|-------------------------|---|
| <i>Code</i> | stepDateTm |
| <i>Description Text</i> | Date and time or range of date and time on or over which the process step occurred. |
| <i>Data Type</i> | gco:DateTime |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 8601 |

Attribute: gmd:processor

| | |
|-------------------------|---|
| <i>Code</i> | stepPorc |
| <i>Description Text</i> | Identification of, and means of communication with, person(s) and organization(s) |

| | |
|---------------------|-----------------------------------|
| <i>Data Type</i> | associated with the process step. |
| <i>Mandatory</i> | gmd:CI_ResponsibleParty |
| <i>Multiplicity</i> | No |
| <i>Domain</i> | 0..* |
| | <None> |

gmd:LI_Source

| | |
|-------------------------|---|
| <i>Code</i> | Source |
| <i>Description Text</i> | Information about the source data used in creating the data specified by the scope. |

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------------|-----------|---------------------|--------------|
| gmd:description | srcDesc | gco:CharacterString | 1..1 |
| gmd:sourceCitation | srcCitatn | gmd:CI_Citation | 0..1 |
| gmd:sourceStep | srcStep | gmd:LI_ProcessStep | 0..* |

Attribute: gmd:description

| | |
|-------------------------|---|
| <i>Code</i> | srcDesc |
| <i>Description Text</i> | Detailed description of the level of the source data. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:sourceCitation

| | |
|-------------------------|---|
| <i>Code</i> | srcCitatn |
| <i>Description Text</i> | Recommended reference to be used for the source data. |
| <i>Data Type</i> | gmd:CI_Citation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:sourceStep

| | |
|-------------------------|---|
| <i>Code</i> | srcStep |
| <i>Description Text</i> | Information about an event in the creation process for the source data. |
| <i>Data Type</i> | gmd:LI_ProcessStep |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

gmd:MD_BrowseGraphic

| | |
|-------------|-----------|
| <i>Code</i> | BrowGraph |
|-------------|-----------|

Description Text

Graphic that provides an illustration of the dataset (should include a legend for the graphic) e.g. a physical data model.

Attributes

| Name | Code | Data Type | Multiplicity |
|---------------------|------------|---------------------|--------------|
| gmd:fileName | bgFileName | gco:CharacterString | 1..1 |
| gmd:fileDescription | bgFileDesc | gco:CharacterString | 0..1 |
| gmd:fileType | bgFileType | gco:CharacterString | 0..1 |

Attribute: gmd:fileName

| | |
|-------------------------|--|
| <i>Code</i> | bgFileName |
| <i>Description Text</i> | Name of the file that contains a graphic that provides an illustration of the dataset. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:fileDescription

| | |
|-------------------------|---------------------------------------|
| <i>Code</i> | bgFileDesc |
| <i>Description Text</i> | Text description of the illustration. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:fileType

| | |
|-------------------------|--|
| <i>Code</i> | bgFileType |
| <i>Description Text</i> | Format in which the illustration is encoded; examples (PDF, JPEG, TIFF). |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_Constraints*Code*

Gmd:MDConstraints

Description Text

Restrictions on the access and use of a resource or metadata.

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------------|----------|---------------------|--------------|
| gmd:useLimitation | useLimit | gco:CharacterString | 1..* |

Attribute: gmd:useLimitation

| | |
|-------------------------|--|
| <i>Code</i> | useLimit |
| <i>Description Text</i> | Limitation affecting the fitness for use of the resource or metadata – Example, “not to be used for navigation”. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

gmd:MD_CoverageDescription

| | |
|-------------------------|----------------------------------|
| <i>Code</i> | Gmd:MDCoverageDescription |
| <i>Description Text</i> | Note: Not defined in this model. |

gmd:MD_DataIdentification

| | |
|-------------------------|--|
| <i>Code</i> | DataIdent |
| <i>Description Text</i> | Information required to identify a dataset. |
| | graphicOverview attribute uses tag attribute xlink:href="" to specify link to browse graphic file. |
| | descriptiveKeywords attribute uses tag attribute xlink:href="" to specify link to thesaurus. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------------------------|----------------|-----------------------------------|--------------|
| gmd:citation | idCitation | gmd:CI_Citation | 1..1 |
| gmd:abstract | idAbs | gco:CharacterString | 1..1 |
| gmd:purpose | idPurp | gco:CharacterString | 0..1 |
| gmd:credit | idCredit | gco:CharacterString | 0..* |
| gmd:status | idStatus | codeList | 0..* |
| gmd:pointOfContact | idPoC | gmd:CI_Responsi bleParty | 0..* |
| gmd:resourceMaintenance | resMaintenance | gmd:MD_Mainte nanceInformation | 0..* |
| gmd:graphicOverview | graphOver | gmd:MD_Browse Graphic | 0..* |
| gmd:resourceFormat | dsFormat | gmd:MD_Format | 0..* |
| gmd:descriptiveKeywords | descKeys | gmd:MD_Keywo rds | 0..* |
| gmd:resourceSpecificUsag e | idSpecUse | gmd:MD_Usage | 0..* |
| gmd:resourceConstraints | resConst | choose | 0..* |

| | | | |
|-------------------------------|------------|--|------|
| gmd:aggregationInfo | aggrInfo | resourceConstraints subtype gmd:MD_AggregateInformation | 0..* |
| gmd:taxonomy | taxonomy | gmd:MD_Taxonomy codeList | 0..1 |
| gmd:spatialRepresentationType | spatRpType | | |
| gmd:spatialResolution | dataScale | gmd:MD_Resolution | 0..* |
| gmd:language | dataLang | gco:CharacterString enumeration | |
| gmd:topicCategory | tpCat | gco:CharacterString | 0..1 |
| gmd:environmentDescription | envirDesc | | |
| gmd:extent | dataExt | gmd:EX_Extent | 0..* |
| gmd:supplementalInformation | suppInfo | gco:CharacterString | 0..1 |

Attribute: gmd:citation

| | |
|-------------------------|------------------------------------|
| <i>Code</i> | idCitation |
| <i>Description Text</i> | Citation data for the resource(s). |
| <i>Data Type</i> | gmd:CI_Citation |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:abstract

| | |
|-------------------------|--|
| <i>Code</i> | idAbs |
| <i>Description Text</i> | Brief narrative summary of the content of the resource(s). |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:purpose

| | |
|-------------------------|---|
| <i>Code</i> | idPurp |
| <i>Description Text</i> | Summary of the intentions with which the resource(s) was developed. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:credit

| | |
|-------------------------|--|
| <i>Code</i> | idCredit |
| <i>Description Text</i> | Recognition of those who contributed to the resource(s). |

| | |
|---------------------|---------------------|
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:status

| | |
|-------------------------|----------------------------|
| <i>Code</i> | idStatus |
| <i>Description Text</i> | Status of the resource(s). |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_ProgressCode |

Attribute: gmd:pointOfContact

| | |
|-------------------------|---|
| <i>Code</i> | idPoC |
| <i>Description Text</i> | Identification of, and means of communication with, person(s) and organizations(s) associated with the resource(s). |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:resourceMaintenance

| | |
|-------------------------|---|
| <i>Code</i> | resMaintenance |
| <i>Description Text</i> | Provides information about the frequency of resource updates, and the scope of those updates. |
| <i>Data Type</i> | gmd:MD_MaintenanceInformation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:graphicOverview

| | |
|-------------------------|--|
| <i>Code</i> | graphOver |
| <i>Description Text</i> | Provides a graphic that illustrates the resource(s) (should include a legend for the graphic) (use for logical and physical data models); tag attribute xlink:href="" provides link to browse graphic. |
| <i>Data Type</i> | gmd:MD_BrowseGraphic |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:resourceFormat

| | |
|-------------------------|--|
| <i>Code</i> | dsFormat |
| <i>Description Text</i> | Provides a description of the format of the resource(s). |
| <i>Data Type</i> | gmd:MD_Format |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:descriptiveKeywords

| | |
|-------------------------|---|
| <i>Code</i> | descKeys |
| <i>Description Text</i> | Provides category keywords, their type, and reference source. |
| <i>Data Type</i> | gmd:MD_Keywords |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:resourceSpecificUsage

| | |
|-------------------------|---|
| <i>Code</i> | idSpecUse |
| <i>Description Text</i> | Provides basic information about specific application(s) for which the resource(s) has/have been or is being used by different users. |
| <i>Data Type</i> | gmd:MD_Usage |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:resourceConstraints

| | |
|-------------------------|--|
| <i>Code</i> | resConst |
| <i>Description Text</i> | Provides information about constraints which apply to the resource(s). |
| <i>Data Type</i> | choose resourceConstraints subtype |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:aggregationInfo

| | |
|-------------------------|-----------------------------|
| <i>Code</i> | aggrInfo |
| <i>Description Text</i> | |
| <i>Data Type</i> | gmd:MD_AggregateInformation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:taxonomy

| | |
|-------------------------|---|
| <i>Code</i> | taxonomy |
| <i>Description Text</i> | Information on the taxa (1 or more) included in the data set, including keywords, taxonomic system and coverage information, and taxonomic classification system. |
| <i>Data Type</i> | gmd:MD_TaxonSys |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:spatialRepresentationType

| | |
|-------------------------|---|
| <i>Code</i> | spatRpType |
| <i>Description Text</i> | Method used to spatially represent geographic information – NOTE: the data file type. |

| | |
|---------------------|----------------------------------|
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_SpatialRepresentationTypeCode |

Attribute: gmd:spatialResolution

| | |
|-------------------------|--|
| <i>Code</i> | dataScale |
| <i>Description Text</i> | Factor which provides a general understanding of the density of spatial data in the dataset. |
| <i>Data Type</i> | gmd:MD_Resolution |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:language

| | |
|-------------------------|--------------------------------------|
| <i>Code</i> | dataLang |
| <i>Description Text</i> | Language(s) used within the dataset. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 639-2 |

Attribute: gmd:topicCategory

| | |
|-------------------------|--|
| <i>Code</i> | tpCat |
| <i>Description Text</i> | Main theme(s) of the dataset – NOTE: only if hierarchy level equals ‘dataset’. |
| <i>Data Type</i> | enumeration |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_TopicCategoryCode |

Attribute: gmd:environmentDescription

| | |
|-------------------------|--|
| <i>Code</i> | envirDesc |
| <i>Description Text</i> | Description of the dataset in the producer’s processing environment, including items such as the software, the computer, the computer operating system, file name, and the dataset size. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:extent

| | |
|-------------------------|--|
| <i>Code</i> | dataExt |
| <i>Description Text</i> | Extent information including the bounding box, bounding polygon, vertical, and temporal extent of the dataset. Note: Use only if hierarchy level equals ‘dataset’. |
| <i>Data Type</i> | gmd:EX_Extent |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:supplementalInformation

| | |
|-------------------------|--|
| <i>Code</i> | suppInfo |
| <i>Description Text</i> | Any other descriptive information about the dataset. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_DigitalTransferOptions

| | |
|-------------------------|---|
| <i>Code</i> | Gmd:MDDigitalTransferOptions |
| <i>Description Text</i> | Technical means and media by which a resource is obtained from the distributor. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------|------------|-----------------------|--------------|
| gmd:onLine | onLineSrc | gmd:CI_OnlineResource | 0..* |
| gmd:offLine | offLineSrc | gmd:MD_Medium | 0..1 |

Attribute: gmd:onLine

| | |
|-------------------------|---|
| <i>Code</i> | onLineSrc |
| <i>Description Text</i> | Informaiton about online sources from which the resource can be obtained. |
| <i>Data Type</i> | gmd:CI_OnlineResource |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:offLine

| | |
|-------------------------|--|
| <i>Code</i> | offLineSrc |
| <i>Description Text</i> | Information about offline media on which the resource can be obtained. |
| <i>Data Type</i> | gmd:MD_Medium |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_Distribution

| | |
|-------------------------|--|
| <i>Code</i> | Distrib |
| <i>Description Text</i> | Information about the distributor of and options for obtaining the resource. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------|-------------|--------------------|--------------|
| gmd:distributor | distributor | gmd:MD_Distributor | 1..* |

Attribute: gmd:distributor

| | |
|-------------------------|---|
| <i>Code</i> | distributor |
| <i>Description Text</i> | Provides information about the distributor. |
| <i>Data Type</i> | gmd:MD_Distributor |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

gmd:MD_Distributor

| | |
|-------------------------|------------------------------------|
| <i>Code</i> | Distributor |
| <i>Description Text</i> | Information about the distributor. |

Attributes

| Name | Code | Data Type | Multiplicity |
|------------------------------------|--------------|-----------------------------------|--------------|
| gmd:distributorContact | distorCont | gmd:CI_Responsi bleParty | 1..1 |
| gmd:distributionOrderProc ess | distorOrdPrc | gmd:MD_Standar dOrderProcess | 0..* |
| gmd:distributorFormat | distorFormat | gmd:MD_Format | 0..* |
| gmd:distributorTransferOp tions | distorTran | gmd:MD_Digital TransferOptions | 0..* |

Attribute: gmd:distributorContact

| | |
|-------------------------|---|
| <i>Code</i> | distorCont |
| <i>Description Text</i> | Party from whom the resource may be obtained. Note: This list need not be exhaustive. |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:distributionOrderProcess

| | |
|-------------------------|---|
| <i>Code</i> | distorOrdPrc |
| <i>Description Text</i> | Provides information about how the resource may be obtained and related instructions and fee information. |
| <i>Data Type</i> | gmd:MD_StandardOrderProcess |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:distributorFormat

| | |
|-------------------------|--|
| <i>Code</i> | distorFormat |
| <i>Description Text</i> | Provides information about the format used by the distributor. |
| <i>Data Type</i> | gmd:MD_Format |

| | |
|---------------------|--------|
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:distributorTransferOptions

| | |
|-------------------------|---|
| <i>Code</i> | distorTran |
| <i>Description Text</i> | Provides information about the technical means and media used by the distributor. |
| <i>Data Type</i> | gmd:MD_DigitalTransferOptions |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

gmd:MD_ExtendedElementInformation

| | |
|-------------------------|--|
| <i>Code</i> | Gmd:MDExtendedElementInformation |
| <i>Description Text</i> | New metadata element, not found in ISO 19115, which is required to describe geographic data. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------------|--------------|---------------------|--------------|
| gmd:name | extEleName | gco:CharacterString | 1..1 |
| gmd:shortName | extShortName | gco:CharacterString | 0..1 |
| gmd:definition | extEleDef | gco:CharacterString | 1..1 |
| gmd:obligation | extEleOb | MD_ObligationCode | 0..1 |
| gmd:dataType | eleDataType | MD_DatatypeCode | 1..1 |
| gmd:maximumOccurrence | extEleMxOc | gco:CharacterString | 0..1 |
| gmd:parentEntity | extEleParEnt | gco:CharacterString | 1..* |
| gmd:rule | extEleRule | gco:CharacterString | 1..1 |
| gmd:rationale | extEleRat | gco:CharacterString | 0..* |
| gmd:source | extEleSrc | CI_ResponsibleParty | 1..* |

Attribute: gmd:name

| | |
|-------------------------|---------------------|
| <i>Code</i> | extEleName |
| <i>Description Text</i> | |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |

| | |
|---------------------|--------|
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:shortName

| | |
|-------------------------|---------------------|
| <i>Code</i> | extShortName |
| <i>Description Text</i> | |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:definition

| | |
|-------------------------|---------------------|
| <i>Code</i> | extEleDef |
| <i>Description Text</i> | |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:obligation

| | |
|-------------------------|-------------------|
| <i>Code</i> | extEleOb |
| <i>Description Text</i> | |
| <i>Data Type</i> | MD_ObligationCode |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:dataType

| | |
|-------------------------|-----------------|
| <i>Code</i> | eleDataType |
| <i>Description Text</i> | |
| <i>Data Type</i> | MD_DatatypeCode |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:maximumOccurence

| | |
|-------------------------|---------------------|
| <i>Code</i> | extEleMxOc |
| <i>Description Text</i> | |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:parentEntity

| | |
|-------------------------|--------------|
| <i>Code</i> | extEleParEnt |
| <i>Description Text</i> | |

| | |
|---------------------|---------------------|
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

Attribute: gmd:rule

| | |
|-------------------------|---------------------|
| <i>Code</i> | extEleRule |
| <i>Description Text</i> | |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:rationale

| | |
|-------------------------|---------------------|
| <i>Code</i> | extEleRat |
| <i>Description Text</i> | |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:source

| | |
|-------------------------|---------------------|
| <i>Code</i> | extEleSrc |
| <i>Description Text</i> | |
| <i>Data Type</i> | CI_ResponsibleParty |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

gmd:MD_FeatureCatalogueDescription

| | |
|-------------------------|--|
| <i>Code</i> | FetCatDesc |
| <i>Description Text</i> | Information identifying the feature catalogue or the conceptual schema for the dataset. The tag includes the uuid=" " parameter containing the GUID of the referenced schema. |

Attributes

| Name | Code | Data Type | Multiplicity |
|------------------------------|--------------|---------------------|--------------|
| gmd:complianceCode | compCode | gco:Boolean | 1..1 |
| gmd:language | gmd:language | gco:CharacterString | |
| gmd:includedWithDataset | incWithDS | gco:Boolean | |
| gmd:featureCatalogueCitation | catCitation | gmd:CI_Citation | |

Attribute: gmd:complianceCode

| | |
|-------------------------|---|
| <i>Code</i> | compCode |
| <i>Description Text</i> | Indication of whether or not the cited feature catalogue complies with AIO 19110. |
| <i>Data Type</i> | gco:Boolean |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | <None> |

Attribute: gmd:language

| | |
|-------------------------|--|
| <i>Code</i> | gmd:language |
| <i>Description Text</i> | Language(s) used within the catalogue. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 3166 |

Attribute: gmd:includedWithDataset

| | |
|-------------------------|--|
| <i>Code</i> | incWithDS |
| <i>Description Text</i> | Indication of whether or not the feature catalogue is included with the dataset. |
| <i>Data Type</i> | gco:Boolean |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:featureCatalogueCitation

| | |
|-------------------------|--|
| <i>Code</i> | catCitation |
| <i>Description Text</i> | Complete bibliographic reference to one or more external feature catalogues. |
| <i>Data Type</i> | gmd:CI_Citation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | <None> |

gmd:MD_Format

| | |
|-------------------------|--|
| <i>Code</i> | Format |
| <i>Description Text</i> | Description of the computer language construct that specifies the representation of the data objects in a record, file, message, storage device or transmission channel. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------|---------------|---------------------|--------------|
| gmd:name | formatName | gco:CharacterString | 1..1 |
| gmd:version | formatVersion | gco:CharacterString | 1..1 |

Attribute: gmd:name

| | |
|-------------------------|--------------------------------------|
| <i>Code</i> | formatName |
| <i>Description Text</i> | Name of the data transfer format(s). |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:version

| | |
|-------------------------|--|
| <i>Code</i> | formatVersion |
| <i>Description Text</i> | Version of the format (date, number, etc.) |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:MD_Keywords

| | |
|-------------------------|--|
| <i>Code</i> | Keywords |
| <i>Description Text</i> | Keywords, their type and reference source. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------------|-------------|---------------------|--------------|
| gmd:keyword | gmd:keyword | gco:CharacterString | 1..* |
| gmd:type | keyTyp | codeList | |
| gmd:thesaurusName | thesaName | gmd:CI_Citation | 0..1 |

Attribute: gmd:keyword

| | |
|-------------------------|--|
| <i>Code</i> | gmd:keyword |
| <i>Description Text</i> | Commonly used word(s) or formalized word(s) or phrase(s) used to describe the subject. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

Attribute: gmd:type

| | |
|-------------------------|--|
| <i>Code</i> | keyTyp |
| <i>Description Text</i> | Subject matter used to group similar keywords. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_KeywordTypeCode |

Attribute: gmd:thesaurusName

| | |
|-------------------------|---|
| <i>Code</i> | thesaName |
| <i>Description Text</i> | Name of the formally registered thesaurus or a similar authoritative source of keywords; tag attribute xlink:href="" provides link to online thesaurus. |
| <i>Data Type</i> | gmd:CI_Citation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_LegalConstraints

| | |
|-------------------------|--|
| <i>Code</i> | LegConsts |
| <i>Description Text</i> | Restrictions and legal prerequisites for accessing and using the resource or metadata. |
| | count(accessConstraints + useConstraints + otherConstraints) > 0 |

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------------|--------------|---------------------|--------------|
| gmd:accessConstraints | accessConsts | codeList | 0..* |
| gmd:useConstraints | useConsts | codeList | |
| gmd:otherConstraints | othConsts | gco:CharacterString | |

Attribute: gmd:accessConstraints

| | |
|-------------------------|---|
| <i>Code</i> | accessConsts |
| <i>Description Text</i> | Access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource or metadata. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_RestrictionCode |

Attribute: gmd:useConstraints

| | |
|-------------------------|--|
| <i>Code</i> | useConsts |
| <i>Description Text</i> | Constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations or warnings on using the resource or metadata. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_RestrictionCode |

Attribute: gmd:otherConstraints

| | |
|-------------------------|--|
| <i>Code</i> | othConsts |
| <i>Description Text</i> | Other restrictions and legal prerequisites for accessing and using the resource or metadata. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |

| | |
|---------------|--------|
| <i>Domain</i> | <None> |
|---------------|--------|

gmd:MD_MaintenanceInformation

| | |
|-------------------------|--|
| <i>Code</i> | Gmd:MDMaintenanceInformation |
| <i>Description Text</i> | Information about the scope and frequency of updating. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------------------------|-------------|-------------------------|--------------|
| gmd:maintenanceAndUpdateFrequency | maintFreq | codeList | 0..* |
| gmd:maintenanceNote | maintNote | gco:CharacterString | |
| gmd:contact | gmd:contact | gmd:CI_ResponsibleParty | 0..* |

Attribute: gmd:maintenanceAndUpdateFrequency

| | |
|-------------------------|---|
| <i>Code</i> | maintFreq |
| <i>Description Text</i> | Frequency with which changes and additions are made to the resource is completed. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_MaintenanceFrequencyCode |

Attribute: gmd:maintenanceNote

| | |
|-------------------------|---|
| <i>Code</i> | maintNote |
| <i>Description Text</i> | Information regarding specific requirements for maintaining the resource. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:contact

| | |
|-------------------------|---|
| <i>Code</i> | gmd:contact |
| <i>Description Text</i> | Identification of, and means of communicating with, person(s) and organization(s) with responsibility for maintaining the metadata. |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

gmd:MD_Medium

| | |
|-------------------------|---|
| <i>Code</i> | Medium |
| <i>Description Text</i> | Information about the media on which the resource can be distributed. |

Attributes

| Name | Code | Data Type | Multiplicity |
|--|--|---|--------------|
| gmd:name gmd:mediumFormat gmd:mediumNote | medName medFormat gmd:mediumNote | codeList codeList gco:CharacterString | 0..1 |

Attribute: gmd:name

| | |
|-------------------------|---|
| <i>Code</i> | medName |
| <i>Description Text</i> | Name of the medium on which the resource can be received. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_MediumNameCode |

Attribute: gmd:mediumFormat

| | |
|-------------------------|-------------------------------------|
| <i>Code</i> | medFormat |
| <i>Description Text</i> | Method used to write to the medium. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_MediumFormatCode |

Attribute: gmd:mediumNote

| | |
|-------------------------|--|
| <i>Code</i> | gmd:mediumNote |
| <i>Description Text</i> | Description of other limitations or requirements for using the medium. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_MetadataExtensionInformation

| | |
|-------------------------|---|
| <i>Code</i> | MdExInfo |
| <i>Description Text</i> | Information describing metadata extensions. |

This block will be automatically populated by the writer for ISOBio and ADIWg Project Metadata data standards; other extensions will need to be specified through the JSON content. The standard taxonomic extension block is available from NOAA.

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------------------------|------------|-------------------------------|--------------|
| gmd:extensionOnLineResource | extOnRes | CI_OnlineResource | 0..1 |
| gmd:extendedElementInformation | extEleInfo | MD_ExtendedElementInformation | 0..* |

Attribute: gmd:extensionOnLineResource

| | |
|-------------------------|-------------------|
| <i>Code</i> | extOnRes |
| <i>Description Text</i> | |
| <i>Data Type</i> | CI_OnlineResource |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:extendedElementInformation

| | |
|-------------------------|-------------------------------|
| <i>Code</i> | extEleInfo |
| <i>Description Text</i> | |
| <i>Data Type</i> | MD_ExtendedElementInformation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

gmd:MD_RepresentativeFraction

| | |
|-------------------------|--|
| <i>Code</i> | RepFract |
| <i>Description Text</i> | Derived from ISO 19103 Scale where MD_Representative Fraction.denominator = 1/Scale.measure And Scale.targetUnits = Scale.sourceUnits. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------|--------|-------------|--------------|
| gmd:denominator | rDenom | gco:Integer | 1..1 |

Attribute: gmd:denominator

| | |
|-------------------------|---|
| <i>Code</i> | rDenom |
| <i>Description Text</i> | The number below the line in a vulgar fraction. |
| <i>Data Type</i> | gco:Integer |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:MD_Resolution

| | |
|-------------------------|--|
| <i>Code</i> | Resol |
| <i>Description Text</i> | Level of detail expressed as a scale factor or a ground distance. Attribute tag uom=" " for distance allows qualification of units of measure. |
| | $\text{count}(\text{equivalentScale} + \text{distance}) = 1$ |

Attributes

| Name | Code | Data Type | Multiplicity |
|------|------|-----------|--------------|
|------|------|-----------|--------------|

| | | | |
|---------------------|-----------|-------------------------------|------|
| gmd:equivalentScale | equScale | gmd:MD_RepresentativeFraction | 0..1 |
| gmd:distance | scaleDist | gco:Distance | 0..1 |

Attribute: gmd:equivalentScale

| | |
|-------------------------|---|
| <i>Code</i> | equScale |
| <i>Description Text</i> | Level of detail expressed as the scale of a comparable hardcopy map or chart. |
| <i>Data Type</i> | gmd:MD_RepresentativeFraction |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:distance

| | |
|-------------------------|-------------------------|
| <i>Code</i> | scaleDist |
| <i>Description Text</i> | Ground sample distance. |
| <i>Data Type</i> | gco:Distance |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_SecurityConstraints

| | |
|-------------------------|---|
| <i>Code</i> | SecConsts |
| <i>Description Text</i> | Handling restrictions imposed on the resource or metadata for national security or similar security concerns. |

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------------------|----------|---------------------|--------------|
| gmd:classification | class | codeList | 0..1 |
| gmd:userNote | userNote | gco:CharacterString | |
| gmd:classificationSystem | classSys | gco:CharacterString | 0..1 |
| gmd:handlingDescription | handDesc | gco:CharacterString | 0..1 |

Attribute: gmd:classification

| | |
|-------------------------|--|
| <i>Code</i> | class |
| <i>Description Text</i> | Name of the handling restrictions on the resource or metadata. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_ClassificationCode |

Attribute: gmd:userNote

| | |
|-------------------------|---|
| <i>Code</i> | userNote |
| <i>Description Text</i> | Explanation of the application of the legal constraints or other restrictions and legal prerequisites for obtaining and using the resource or metadata. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:classificationSystem

| | |
|-------------------------|------------------------------------|
| <i>Code</i> | classSys |
| <i>Description Text</i> | Name of the classification system. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:handlingDescription

| | |
|-------------------------|---|
| <i>Code</i> | handDesc |
| <i>Description Text</i> | Additional information about the restrictions on handling the resource or metadata. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_ServiceIdentification

| | |
|-------------------------|------------------------------------|
| <i>Code</i> | Gmd:MDSERVICEIdentification |
| <i>Description Text</i> | Note: Not described in this model. |

gmd:MD_StandardOrderProcess

| | |
|-------------------------|--|
| <i>Code</i> | StanOrdProc |
| <i>Description Text</i> | Common ways in which the resource may be obtained or received, and related instructions and fee information. |

Attributes

| Name | Code | Data Type | Multiplicity |
|----------------------------------|------------|---------------------|--------------|
| gmd:fees | resFees | gco:CharacterString | 0..1 |
| gmd:plannedAvailableDate Time | planAvDtTm | gco:DateTime | 0..1 |
| gmd:orderingInstructions | ordInstr | gco:CharacterString | 0..1 |
| gmd:turnaround | ordTurn | gco:CharacterString | 0..1 |

Attribute: gmd:fees

| | |
|-------------------------|--|
| <i>Code</i> | resFees |
| <i>Description Text</i> | Fees and terms for retrieving the resource, including monetary units (as specified in ISO 4217). |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:plannedAvailableDateTime

| | |
|-------------------------|--|
| <i>Code</i> | planAvDtTm |
| <i>Description Text</i> | Date and time when the resource will be available. |
| <i>Data Type</i> | gco:DateTime |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 8601 |

Attribute: gmd:orderingInstructions

| | |
|-------------------------|---|
| <i>Code</i> | ordInstr |
| <i>Description Text</i> | General instructions, terms and services provided by the distributor. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:turnaround

| | |
|-------------------------|--|
| <i>Code</i> | ordTurn |
| <i>Description Text</i> | Typical turnaround time for the filling of an order. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_TaxonCI

| | |
|-------------------------|--|
| <i>Code</i> | Gmd:MDTaxonCI |
| <i>Description Text</i> | Information about the range of taxa addressed in the data set or collection. It is recommended that one provide information starting from the taxonomic rank of kingdom, to a level which reflects the data set or collection being documented. The levels of Kingdom, Division/Phylum, class, Order, Family, Genus, and Species should be included as ranks as appropriate. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------|-------------|---------------------|--------------|
| gmd:common | gmd:common | gco:CharacterString | 0..* |
| gmd:taxonrn | gmd:taxonrn | gco:CharacterString | 0..1 |

| | | | |
|-------------|-------------|--------------------------|------|
| gmd:taxonrv | gmd:taxonrv | ng gco:CharacterStri | 0..1 |
| gmd:taxonCI | gmd:taxonCI | ng gmd:MD_Taxon CI | 0..1 |

Attribute: gmd:common

| | |
|-------------------------|--|
| <i>Code</i> | gmd:common |
| <i>Description Text</i> | Specification of applicable common names. These common names may be general descriptions of a group of organisms if appropriate (e.g. insects, vertebrate, grasses, waterfowl, vascular plants, etc.). |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:taxonrn

| | |
|-------------------------|--|
| <i>Code</i> | gmd:taxonrn |
| <i>Description Text</i> | Name of the taxonomic rank for which the Taxon_Rank_Value is provided. See the example included in the definition of Taxonomic_Classification. Example: "Kingdom", "Division", "Phylum", "Subphylum", "SuperClass", "Class", "SubClass", "InfraClass", "Superorder", "Order", "Suborder", "Infraorder", "Superfamily", "Family", "Subfamily", "Tribe", "Subtribe", "Genus", "Species". |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:taxonrv

| | |
|-------------------------|--|
| <i>Code</i> | gmd:taxonrv |
| <i>Description Text</i> | Taxonomic rank value of the taxon being described. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:taxonCI

| | |
|-------------------------|----------------|
| <i>Code</i> | gmd:taxonCI |
| <i>Description Text</i> | |
| <i>Data Type</i> | gmd:MD_TaxonCI |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmd:MD_TaxonSys

| | |
|-------------|----------------|
| <i>Code</i> | Gmd:MDTaxonSys |
|-------------|----------------|

Description Text

Documentation of taxonomic sources, procedures, and treatments.

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------|--------------|-----------------------------|--------------|
| gmd:classSys | gmd:classSys | gmd:CI_Citation | 1..* |
| gmd:taxongen | gmd:taxongen | gco:CharacterString | 0..1 |
| gmd:idref | gmd:idref | gco:nilReason | 0..* |
| gmd:obs | gmd:obs | gmd:CI_Responsi bleParty | 0..* |
| gmd:taxonpro | gmd:taxonpro | gco:CharacterString | 1..1 |
| gmd:voucher | gmd:voucher | gmd:MD_Vouch ers | 0..1 |
| gmd:taxonCI | gmd:taxonCI | gmd:MD_Taxon CI | 1..1 |

Attribute: gmd:classSys

| | |
|-------------------------|--|
| <i>Code</i> | gmd:classSys |
| <i>Description Text</i> | Information about the classification system or authority used. |
| <i>Data Type</i> | gmd:CI_Citation |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

Attribute: gmd:taxongen

| | |
|-------------------------|--|
| <i>Code</i> | gmd:taxongen |
| <i>Description Text</i> | Description of the range of taxa addressed in the data set or collection. For example, "all vascular plants were identified to family or species, mosses and lichens were identified as moss or lichen". |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:idref

| | |
|-------------------------|--|
| <i>Code</i> | gmd:idref |
| <i>Description Text</i> | Information on any non-authoritative materials (e.g. field guides) useful for reconstructing the actual process. |
| <i>Data Type</i> | gco:nilReason |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:obs

| | |
|-------------------------|---|
| <i>Code</i> | gmd:obs |
| <i>Description Text</i> | Information about the individual(s) responsible for the identification(s) of the specimens or sightings. etc. |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:taxonpro

| | |
|-------------------------|---|
| <i>Code</i> | gmd:taxonpro |
| <i>Description Text</i> | Description of the methods used for taxonomic identification. Could include specimen processing, comparison with museum materials, keys, and key characters, chemical or genetic analyses, etc. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:voucher

| | |
|-------------------------|--------------------------------|
| <i>Code</i> | gmd:voucher |
| <i>Description Text</i> | Information about the voucher. |
| <i>Data Type</i> | gmd:MD_Vouchers |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:taxonCI

| | |
|-------------------------|--|
| <i>Code</i> | gmd:taxonCI |
| <i>Description Text</i> | Information about the range of taxa addressed in the data set or collection. It is recommended that one provide information starting from the taxonomic rank of kingdom, to a level which reflects the data set or collection being documented. The levels of Kingdom, Division/Phylum, class, Order, Family, Genus, and Species should be included as ranks as appropriate. |
| <i>Data Type</i> | gmd:MD_TaxonCI |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:MD_Usage

| | |
|-------------------------|--|
| <i>Code</i> | Usage |
| <i>Description Text</i> | Brief Description of ways in which the resource(s) is/are currently or have been used. |

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------------|-----------|-------------------|--------------|
| gmd:specificUsage | specUsage | gco:CharacterStri | 1..1 |

| | | | |
|-------------------------------|------------|-------------------------------|------|
| gmd:userDeterminedLimitations | usrDetLim | ng gco:CharacterString | 0..1 |
| gmd:userContactInfo | usrCntInfo | ng gmd:CI_ResponsibleParty | 1..* |

Attribute: gmd:specificUsage

| | |
|-------------------------|---|
| <i>Code</i> | specUsage |
| <i>Description Text</i> | Brief description of the resource and/or resource series usage. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:userDeterminedLimitations

| | |
|-------------------------|---|
| <i>Code</i> | usrDetLim |
| <i>Description Text</i> | Applications, determined by the user for which the resource and/or resource series is not suitable. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:userContactInfo

| | |
|-------------------------|--|
| <i>Code</i> | usrCntInfo |
| <i>Description Text</i> | Identification of and means of communicating with the person(s) and organization(s) using the resource(s). |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

gmd:MD_Vouchers

| | |
|-------------------------|--|
| <i>Code</i> | Gmd:MDVouchers |
| <i>Description Text</i> | Information on the types of specimen, the repository, and the individuals who identified the vouchers. |

Attributes

| Name | Code | Data Type | Multiplicity |
|--------------|--------------|-------------------------------|--------------|
| gmd:specimen | gmd:specimen | gco:CharacterString | 1..1 |
| gmd:reposit | gmd:reposit | ng gmd:CI_ResponsibleParty | 1..1 |

Attribute: gmd:specimen

| | |
|-------------------------|---|
| <i>Code</i> | gmd:specimen |
| <i>Description Text</i> | Word or phrase describing the type of specimen collected (e.g. herbarium specimens, blood samples, photographs, individuals, or batches). Example: "herbarium specimens", "blood samples", "photographs", "individuals", "free text". |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:reposit

| | |
|-------------------------|--|
| <i>Code</i> | gmd:reposit |
| <i>Description Text</i> | Information about the curator or contact person and/or agency responsible for the specimens. |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gmd:polygon

| | |
|-------------------------|---|
| <i>Code</i> | gmd:polygon |
| <i>Description Text</i> | An abstract class for defining multiple GML geometries not all of which are defined in this model. |
| | Not defined: MultiSolid, CompositeSolid, Solid, GeometricComplex, Tin, OrientableSurface, MultiPoint, Composite Curve, TriangulatedSurface, MultiSurface, Orientable Curve, CompositeSurface, MultiCurve, RectifiedGrid, Surface, Grid, Curve, PolyhedralSurface |

gmd:resourceConstraints

| | |
|-------------------------|-----------------|
| <i>Code</i> | consts |
| <i>Description Text</i> | Choose subtype. |

gmd_MD_ImageDescription

| | |
|-------------------------|----------------------------------|
| <i>Code</i> | GmdMdImageDescription |
| <i>Description Text</i> | Note: Not defined in this model. |

gmi:MI_CoverageDescription

| | |
|-------------------------|----------------------------------|
| <i>Code</i> | Gmi:MICoverageDescription |
| <i>Description Text</i> | Note: Not defined in this model. |

gmi:MI_ImageDescription

| | |
|-------------------------|----------------------------------|
| <i>Code</i> | Gmi:MIImageDescription |
| <i>Description Text</i> | Note: Not defined in this model. |

gmi:MI_Metadata

Code

Metadata

Description Text

Root entity which defines metadata about a resource or resources.

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------------------|---------------------------|---|--------------|
| gmd:fileIdentifier | mdFileID | gco:CharacterString (GUID) | 0..1 |
| gmd:language | mdLang | gco:CharacterString | |
| gmd:characterSet | mdChar | codeList | |
| gmd:parentIdentifier | mdParentID | gco:CharacterString | 0..1 |
| gmd:hierarchyLevel | gmd:hierarchyLevel | codeList | |
| gmd:contact | mdContact | gmd:CI_Responsi bleParty | 1..* |
| gmd:dateStamp | mdDateSt | gco:Date | 1..1 |
| gmd:metadataStandardName | mdStanName | gco:CharacterString | 0..1 |
| gmd:metadataStandardVersion | mdStanVer | gco:CharacterString | 0..1 |
| gmd:dataSetURI | dataSetURII | gco:CharacterString | 0..1 |
| gmd:referenceSystemInfo | refSysInfo | gmd:MD_Referen ceSystem | 0..* |
| gmd:metadataExtensionInfo | gmd:metadataExtensionInfo | gmd:MD_Metada taExtensionInfor mation | 0..* |
| gmd:identificationInfo | dataIdInfo | choose identificationInfo subtype | 1..* |
| gmd:contentInfo | contInfo | choose contentInfo subtype | 0..* |
| gmd:distributionInfo | distInfo | gmd:MD_Distrib ution | 0..1 |
| gmd:dataQualityInfo | dqInfo | gmd:DQ_DataQu ality | 0..* |
| gmd:metadataMaintenance | mdMaint | gmd:MD_Mainte nanceInformation | 0..1 |

Attribute: gmd:fileIdentifier

| | |
|-------------|----------|
| <i>Code</i> | mdFileID |
|-------------|----------|

| | |
|-------------------------|---|
| <i>Description Text</i> | Unique identifier for this metadata file. |
| <i>Data Type</i> | gco:CharacterString (GUID) |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:language

| | |
|-------------------------|---|
| <i>Code</i> | mdLang |
| <i>Description Text</i> | Language used for documenting metadata. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 639-2 |

Attribute: gmd:characterSet

| | |
|-------------------------|---|
| <i>Code</i> | mdChar |
| <i>Description Text</i> | Full name of the character coding standard used for the metadata set. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_CharacterSetCode |

Attribute: gmd:parentIdentifier

| | |
|-------------------------|---|
| <i>Code</i> | mdParentID |
| <i>Description Text</i> | File identifier of the metadata to which this metadata is a subset (child). |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:hierarchyLevel

| | |
|-------------------------|--------------------------------------|
| <i>Code</i> | gmd:hierarchyLevel |
| <i>Description Text</i> | Scope to which the metadata applies. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_ScopeCode |

Attribute: gmd:contact

| | |
|-------------------------|--|
| <i>Code</i> | mdContact |
| <i>Description Text</i> | Party responsible for metadata information (metadata custodian). |
| <i>Data Type</i> | gmd:CI_ResponsibleParty |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

Attribute: gmd:dateStamp

| | |
|-------------------------|-------------------------------------|
| <i>Code</i> | mdDateSt |
| <i>Description Text</i> | Date that the metadata was created. |
| <i>Data Type</i> | gco:Date |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:metadataStandardName

| | |
|-------------------------|-------------------------------------|
| <i>Code</i> | mdStanName |
| <i>Description Text</i> | Name of the metadata standard used. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:metadataStandardVersion

| | |
|-------------------------|--|
| <i>Code</i> | mdStanVer |
| <i>Description Text</i> | Version (profile) of the metadata standard used. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:dataSetURI

| | |
|-------------------------|---|
| <i>Code</i> | dataSetURII |
| <i>Description Text</i> | Uniform Resource Identifier (URI) of the dataset to which the metadata applies. |
| <i>Data Type</i> | gco:CharacterString |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:referenceSystemInfo

| | |
|-------------------------|--|
| <i>Code</i> | refSysInfo |
| <i>Description Text</i> | Description of the spatial and temporal reference systems used in the dataset. |
| <i>Data Type</i> | gmd:MD_ReferenceSystem |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:metadataExtensionInfo

| | |
|-------------------------|--|
| <i>Code</i> | gmd:metadataExtensionInfo |
| <i>Description Text</i> | Information describing the extension to metadata – NOTE: required to include TAXON for biological extension. |
| <i>Data Type</i> | gmd:MD_MetadataExtensionInformation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |

| | |
|---------------|--------|
| <i>Domain</i> | <None> |
|---------------|--------|

Attribute: gmd:identificationInfo

| | |
|-------------------------|--|
| <i>Code</i> | dataIdInfo |
| <i>Description Text</i> | Basic information about the resource(s) to which the metadata applies. |
| <i>Data Type</i> | choose identificationInfo subtype |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..* |
| <i>Domain</i> | <None> |

Attribute: gmd:contentInfo

| | |
|-------------------------|---|
| <i>Code</i> | contInfo |
| <i>Description Text</i> | Provides information about the feature catalogue and describes the coverage and image data characteristics – NOTE: Provides the link to ISO 19110 entity and attribute information. |
| <i>Data Type</i> | choose contentInfo subtype |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:distributionInfo

| | |
|-------------------------|--|
| <i>Code</i> | distInfo |
| <i>Description Text</i> | Provides information about the distributor of and options for obtaining the resource(s). |
| <i>Data Type</i> | gmd:MD_Distribution |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:dataQualityInfo

| | |
|-------------------------|--|
| <i>Code</i> | dqInfo |
| <i>Description Text</i> | Provides overall assessment of quality of a resource(s). |
| <i>Data Type</i> | gmd:DQ_DataQuality |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gmd:metadataMaintenance

| | |
|-------------------------|---|
| <i>Code</i> | mdMaint |
| <i>Description Text</i> | Provides information about the frequency of metadata updates, and the scope of those updates. |
| <i>Data Type</i> | gmd:MD_MaintenanceInformation |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

gmi:QE_CoverageResult

| | |
|-------------------------|-----------------------|
| <i>Code</i> | Gmi:QECoverageResult |
| <i>Description Text</i> | Not defined on model. |

gmi:QE_Usability

| | |
|-------------------------|--|
| <i>Code</i> | Usability |
| <i>Description Text</i> | Degree of adherence of a dataset to a specific set of user requirements. |

Attributes

| Name | Code | Data Type | Multiplicity |
|---------------------------|--------------|----------------------------|--------------|
| gmd:nameOfMeasure | measName | gco:CharacterString [0..n] | |
| gmd:measureIdentification | measId | gmd:MD_Identifier [0..1] | |
| gmd:measureDescription | measDesc | gco:CharacterString [0..1] | |
| gmd:dateTime | measDateTime | gco:DateTime [0..n] | |
| gmd:result | measResult | gmd:DQ_Result [M..2] | |

Attribute: gmd:nameOfMeasure

| | |
|-------------------------|---------------------------------------|
| <i>Code</i> | measName |
| <i>Description Text</i> | Name of the test applied to the data. |
| <i>Data Type</i> | gco:CharacterString [0..n] |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | <None> |

Attribute: gmd:measureIdentification

| | |
|-------------------------|---|
| <i>Code</i> | measId |
| <i>Description Text</i> | Code identifying a registered standard procedure. |
| <i>Data Type</i> | gmd:MD_Identifier [0..1] |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | <None> |

Attribute: gmd:measureDescription

| | |
|-------------------------|-----------------------------|
| <i>Code</i> | measDesc |
| <i>Description Text</i> | Description of the measure. |
| <i>Data Type</i> | gco:CharacterString [0..1] |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | <None> |

Attribute: gmd:dateTime

| | |
|-------------------------|---|
| <i>Code</i> | measDateTime |
| <i>Description Text</i> | Data or range of dates on which a data quality measure was applied. |
| <i>Data Type</i> | gco:DateTime [0..n] |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | <None> |

Attribute: gmd:result

| | |
|-------------------------|---|
| <i>Code</i> | measResult |
| <i>Description Text</i> | Value (or set of values) obtained from applying a data quality measure or the outcome of evaluating the obtained value (or set of values) against a specified acceptable conformance quality level. |
| <i>Data Type</i> | gmd:DQ_Result [M..2] |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | <None> |

gml:GenericMetaData

| | |
|-------------------------|---|
| <i>Code</i> | GenMetaData |
| <i>Description Text</i> | The GenericMetaData class allows specification of additional attributes to a Point. There are over 600+ attributes from the GMD, GCO, and GML namespaces which are allowed. 3 of these related to specifying temporal information for the Point are included in this model. |

Attributes

| Name | Code | Data Type | Multiplicity |
|---------------------------|--------------------------|---------------------------|--------------|
| gco:date | genMetaDate | gco:DateTime | 0..1 |
| gml:TimeInstant | genTimeInst | gml:TimeInstant [0..1] | |
| gml:TimePeriod | genTimePerd | gml:TimePeriod [0..1] | 0..1 |
| gmd:MD_ScopeCode | MD_ScopeCode | codeList | |
| gmd:DS_InitiativeTypeCode | gmd:DSInitiativeTypeCode | codelist | |

Attribute: gco:date

| | |
|-------------------------|--------------|
| <i>Code</i> | genMetaDate |
| <i>Description Text</i> | Date string. |
| <i>Data Type</i> | gco:DateTime |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 8601 |

Attribute: gml:TimeInstant

| | |
|-------------------------|--|
| <i>Code</i> | genTimeInst |
| <i>Description Text</i> | A discrete instant in time (date, time, UTC offset). |
| <i>Data Type</i> | gml:TimeInstant [0..1] |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:TimePeriod

| | |
|-------------------------|---|
| <i>Code</i> | genTimePerd |
| <i>Description Text</i> | A period of time marked by a beginning and ending datetime. |
| <i>Data Type</i> | gml:TimePeriod [0..1] |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gmd:MD_ScopeCode

| | |
|-------------------------|---|
| <i>Code</i> | MD_ScopeCode |
| <i>Description Text</i> | Class of information to which the referencing entity applies. |
| <i>Data Type</i> | codeList |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | MD_ScopeCode |

Attribute: gmd:DS_InitiativeTypeCode

| | |
|-------------------------|---|
| <i>Code</i> | gmd:DSInitiativeTypeCode |
| <i>Description Text</i> | Type of aggregation activity in which datasets are related. |
| <i>Data Type</i> | odelist |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | DS_InitiativeTypeCode |

gml:LinearRing

| | |
|-------------------------|---|
| <i>Code</i> | LinearRing |
| <i>Description Text</i> | A LinearRing must contain 4 or more points with the last being equal to the first to close the ring. The points can be defined either as discrete points using <gml:pos> or a set of coordinates using <gml:coordinates>. |

ISO requires either the pos (position), posList, pointProperty, pointRep, or the coordinates element. The ADIwg standard allows only the coordinates element and thus it has been marked 'required'.

Attributes

| Name | Code | Data Type | Multiplicity |
|-----------------|---------------|-----------------------------------|--------------|
| gml:coordinates | lineRingCoord | longitude latitude [elevation] | 1..1 |

Attribute: gml:coordinates

| | |
|-------------------------|--|
| <i>Code</i> | lineRingCoord |
| <i>Description Text</i> | A sequence of longitude, latitude, and optional elevation tuples for each point in the linear ring; separate longitude, latitude, and elevation by commas; separate tuples by a space; must have 4 or more tuples. |
| <i>Data Type</i> | longitude latitude [elevation] |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gml:LineString

| | |
|-------------------------|--|
| <i>Code</i> | Gml:LineString |
| <i>Description Text</i> | <p>A LineString can be defined either as discrete points using <gml:pos> or a set of coordinates using <gml:coordinates>.</p> <p>Attribute gml:id="" is required. Type is string and it must be unique within the metadata record. Attributes srsDimension="" and srsName="" are recommended (srs = spatial reference system). srsDimension is the number of dimensions for the coordinates (usually 2 or 3) and srsName is the crs or epsg system identifier.</p> <p>ISO requires either the pos (position), posList, pointProperty, pointRep, or the coordinates element. The ADIwg standard allows only the coordinates element and thus it has been marked 'required'.</p> |

Attributes

| Name | Code | Data Type | Multiplicity |
|----------------------|-----------------|-----------------------------------|--------------|
| gml:metaDataProperty | lineStrMetaProp | gml:GenericMeta Data | 0..* |
| gml:description | lineStrDesc | string | 0..1 |
| gml:name | lineStrName | name | 0..* |
| gml:coordinates | lineStrCoord | longitude latitude [elevation] | 1..1 |

Attribute: gml:metaDataProperty

| | |
|-------------------------|---|
| <i>Code</i> | lineStrMetaProp |
| <i>Description Text</i> | A metadata property native to another class but associated with the Line String class to define some characteristic of the Line String. |
| <i>Data Type</i> | gml:GenericMetaData |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gml:description

| | |
|-------------------------|---------------------------------|
| <i>Code</i> | lineStrDesc |
| <i>Description Text</i> | Description of the line string. |

| | |
|---------------------|--------|
| <i>Data Type</i> | string |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:name

| | |
|-------------------------|---------------------------|
| <i>Code</i> | lineStrName |
| <i>Description Text</i> | Name for the line string. |
| <i>Data Type</i> | name |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gml:coordinates

| | |
|-------------------------|--|
| <i>Code</i> | lineStrCoord |
| <i>Description Text</i> | A sequence of longitude, latitude, and optional elevation tuples for each point in the line string; separate longitude, latitude, and elevation by commas; separate tuples by a space; must have 4 or more tuples. longitude latitude [elevation] |
| <i>Data Type</i> | Yes |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gml:MultiGeometry

| | |
|-------------------------|--|
| <i>Code</i> | MultiGeo |
| <i>Description Text</i> | A collection of geometries sharing some common traits. |

Attribute gml:id="" is required. Type is string and it must be unique within the metadata record. Attributes srsDimension="" and srsName="" are recommended (srs = spatial reference system). srsDimension is the number of dimensions for the coordinates (usually 2 or 3) and srsName is the crs or epsg system identifier.

ISO requires either the geometryMembers or the geometryMember element. The ADIWg standard allows only the geometryMembers element and thus it has been marked 'required'.

Attributes

| Name | Code | Data Type | Multiplicity |
|---------------------|--------------|------------------------|--------------|
| gml:description | multiGeoDesc | string | 0..1 |
| gml:name | multiGeoName | string | 0..* |
| gml:geometryMembers | multiGeoMbr | choose polygon subtype | 1..1 |

Attribute: gml:description

| | |
|-------------------------|---|
| <i>Code</i> | multiGeoDesc |
| <i>Description Text</i> | Description of the multi-geometry collection. |

| | |
|---------------------|--------|
| <i>Data Type</i> | string |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:name

| | |
|-------------------------|---|
| <i>Code</i> | multiGeoName |
| <i>Description Text</i> | Name for the multi-geometry collection. |
| <i>Data Type</i> | string |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gml:geometryMembers

| | |
|-------------------------|---|
| <i>Code</i> | multiGeoMbr |
| <i>Description Text</i> | One or more geometries that comprise the multi-geometry collection. |
| <i>Data Type</i> | choose polygon subtype |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gml:Point

| | |
|-------------------------|--|
| <i>Code</i> | Gml:Point |
| <i>Description Text</i> | A geographic or geometric point. Attribute gml:id="" is required. Type is string and it must be unique within the metadata record. Attributes srsDimension="" and srsName="" are recommended (srs = spatial reference system). srsDimension is the number of dimensions for the coordinates (usually 2 or 3) and srsName is the crs or epsg system identifier. |

gml:identifier > is a local or controlled identifier for the point. The codeSpace="" attribute must be present. codeSpace is of type URL and contains the link to the authority assigning the point's identifier e.g. <http://www.gtnp.org> for Global Terrestrial Network for Permafrost. If no URL is available, the codeSpace attribute must still appear but can be blank.

ISO requires either the coordinates or the pos (position) element. The ADIwg standard allows only the coordinates element and thus it has been marked 'required'.

Attributes

| Name | Code | Data Type | Multiplicity |
|----------------------|---------------|-----------------------------------|--------------|
| gml:metaDataProperty | pointMetaProp | gml:GenericMeta | 0..* |
| gml:description | pointDesc | Data | 0..1 |
| gml:name | pointName | string | 0..* |
| gml:coordinates | pointCoord | longitude latitude [elevation] | 1..1 |

Attribute: gml:metaDataProperty

| | |
|-------------------------|---|
| <i>Code</i> | pointMetaProp |
| <i>Description Text</i> | A metadata property native to another class but associated with the Point class to define some characteristic of the point. |
| <i>Data Type</i> | gml:GenericMetaData |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gml:description

| | |
|-------------------------|----------------------------|
| <i>Code</i> | pointDesc |
| <i>Description Text</i> | Description for the point. |
| <i>Data Type</i> | string |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:name

| | |
|-------------------------|---------------------|
| <i>Code</i> | pointName |
| <i>Description Text</i> | Name for the point. |
| <i>Data Type</i> | string |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gml:coordinates

| | |
|-------------------------|--|
| <i>Code</i> | pointCoord |
| <i>Description Text</i> | A sequence of longitude, latitude, and optional elevation tuples for a collection of individual points; separate longitude, latitude, and elevation by commas; separate tuples by a space. |
| <i>Data Type</i> | longitude latitude [elevation] |
| <i>Mandatory</i> | Yes |
| <i>Multiplicity</i> | 1..1 |
| <i>Domain</i> | <None> |

gml:Polygon

| | |
|-------------------------|---|
| <i>Code</i> | Polygon |
| <i>Description Text</i> | A Polygon can have 1 exterior and n interior rings. |

Attribute gml:id="" is required. Type is string and it must be unique within the metadata record. Attributes srsDimension="" and srsName="" are recommended (srs = spatial reference system). srsDimension is the number of dimensions for the coordinates (usually 2 or 3) and srsName is the crs or epsg system identifier.

Attributes

| Name | Code | Data Type | Multiplicity |
|------|------|-----------|--------------|
|------|------|-----------|--------------|

| | | | |
|-----------------------------------|---------------------------|---------------------------------------|------|
| <code>gml:metaDataProperty</code> | <code>polyMetaProp</code> | <code>gml:GenericMeta Data</code> | 0..* |
| <code>gml:description</code> | <code>polyDesc</code> | <code>string</code> | 0..1 |
| <code>gml:name</code> | <code>polyName</code> | <code>string</code> | 0..* |
| <code>gml:exterior</code> | <code>polyExt</code> | <code>gml:LinearRing</code> | 0..1 |
| <code>gml:interior</code> | <code>polyInt</code> | <code>gml:LinearRing</code> | 0..* |

Attribute: gml:metaDataProperty

| | |
|-------------------------|---|
| <i>Code</i> | <code>polyMetaProp</code> |
| <i>Description Text</i> | A metadata property native to another class but associated with the Polygon class to define some characteristic of the polygon. |
| <i>Data Type</i> | <code>gml:GenericMetaData</code> |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gml:description

| | |
|-------------------------|-----------------------------|
| <i>Code</i> | <code>polyDesc</code> |
| <i>Description Text</i> | Description of polygon set. |
| <i>Data Type</i> | <code>string</code> |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:name

| | |
|-------------------------|-----------------------|
| <i>Code</i> | <code>polyName</code> |
| <i>Description Text</i> | Name for polygon set. |
| <i>Data Type</i> | <code>string</code> |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |
| <i>Domain</i> | <None> |

Attribute: gml:exterior

| | |
|-------------------------|-----------------------------|
| <i>Code</i> | <code>polyExt</code> |
| <i>Description Text</i> | Outer boundary ring. |
| <i>Data Type</i> | <code>gml:LinearRing</code> |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:interior

| | |
|-------------------------|---|
| <i>Code</i> | <code>polyInt</code> |
| <i>Description Text</i> | Interior boundary ring – area of exclusion. |
| <i>Data Type</i> | <code>gml:LinearRing</code> |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..* |

| | |
|---------------|--------|
| <i>Domain</i> | <None> |
|---------------|--------|

gml:TimeEdge

| | |
|-------------------------|---|
| <i>Code</i> | Gml:TimeEdge |
| <i>Description Text</i> | Note: Not defined in this model. (same as TimePeriod) |

gml:TimeInstant

| | |
|-------------------------|--|
| <i>Code</i> | Gml:TimeInstant |
| <i>Description Text</i> | gml:TimeInstant implements ISO19108 TM_Instant and acts as a zero-dimensional geometric primitive that represents and identifiable position in time. |

Attribute gml:id="" is required.

Attributes

| Name | Code | Data Type | Multiplicity |
|------------------|------------------|--------------|--------------|
| gml:description | gml:description | string | 0..1 |
| gml:timePosition | gml:timePosition | gco:DateTime | |

Attribute: gml:description

| | |
|-------------------------|-----------------|
| <i>Code</i> | gml:description |
| <i>Description Text</i> | No definition. |
| <i>Data Type</i> | string |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:timePosition

| | |
|-------------------------|---|
| <i>Code</i> | gml:timePosition |
| <i>Description Text</i> | The method for identifying a temporal position is specific to each temporal reference system. gml:TimePeriod implements ISO 19108 TM_Period and acts as a one-dimensional geometric primitive that represents an identifiable extent in time. |
| <i>Data Type</i> | gco:DateTime |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 8601 |

gml:TimeNode

| | |
|-------------------------|---|
| <i>Code</i> | Gml:TimeNode |
| <i>Description Text</i> | Note: Not defined in this model. (same as TimeInstance) |

gml:TimePeriod

| | |
|-------------------------|---|
| <i>Code</i> | Gml:TimePeriod |
| <i>Description Text</i> | gml:TimePeriod implements ISO 19108 TM_Period and acts as a one-dimensional |

geometric primitive that represents an identifiable extent in time.

Attribute gml:id="" is required.

Attributes

| Name | Code | Data Type | Multiplicity |
|-------------------|-------------------|--------------|--------------|
| gml:description | gml:description | string | 0..1 |
| gml:beginPosition | gml:beginPosition | gco:DateTime | |
| gml:endPosition | gml:endPosition | gco:DateTime | |

Attribute: gml:description

| | |
|-------------------------|-----------------|
| <i>Code</i> | gml:description |
| <i>Description Text</i> | No definition. |
| <i>Data Type</i> | string |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | 0..1 |
| <i>Domain</i> | <None> |

Attribute: gml:beginPosition

| | |
|-------------------------|-------------------|
| <i>Code</i> | gml:beginPosition |
| <i>Description Text</i> | No definition. |
| <i>Data Type</i> | gco:DateTime |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 8601 |

Attribute: gml:endPosition

| | |
|-------------------------|-----------------|
| <i>Code</i> | gml:endPosition |
| <i>Description Text</i> | No definition. |
| <i>Data Type</i> | gco:DateTime |
| <i>Mandatory</i> | No |
| <i>Multiplicity</i> | |
| <i>Domain</i> | ISO 8601 |

gml:TM_Primitive

| | |
|-------------------------|-----------------|
| <i>Code</i> | Gml:TMPrimitive |
| <i>Description Text</i> | Choose subtype. |

gml:UnitDefinition

| | |
|-------------------------|--|
| <i>Code</i> | Gml:UnitDefinition |
| <i>Description Text</i> | A UnitDefinition is a general definition of a unit of measure. This generic element is used only for units for which no relationship with other units or units systems is known. |

Not defined in this model.

svr:SV_ServiceIdentification*Code*

Svr:SVServiceIdentification

Description Text

Note: Not described in this model.

CI_DateTypeCode

| Name | Domain Code | Definition |
|-----------------|-------------|---|
| CI_DateTypeCode | DateTypCd | Identification of when a given event occurred |
| creation | 001 | date identifies when the resource was brought into existence |
| publication | 002 | date identifies when the resource was issued |
| revision | 003 | date identifies when the resource was examined or re-examined and improved or amended |

CI_OnLineFunctionCode

| Name | Domain Code | Definition |
|-----------------------|-------------|--|
| CI_OnLineFunctionCode | OnFuncCd | function performed by the resource |
| download | 001 | online instructions for transferring data from one storage device or system to another |
| information | 002 | online information about the resource |
| offlineAccess | 003 | online instructions for requesting the resource from the provider |
| order | 004 | online order process for obtaining the resource |
| search | 005 | online search interface for seeking out information about the resource |

CI_PresentationFormCode

| Name | Domain Code | Definition |
|---------------------|------------------|---|
| CI_presentationForm | FormCd | mode in which the data is represented |
| Digital document | documentDigital | digital representation of a primarily textual item (can contain illustrations also) |
| Hardcopy document | documentHardcopy | likeness of natural or man-made features, objects, and activities acquired through the sensing of visual or any other segment of the electromagnetic spectrum by sensors, such as thermal infrared, and high resolution radar and stored in digital format |
| Digital image | imageDigital | representation of a primarily textual item (can contain illustrations also) on paper, photographic material, or other media |
| Hardcopy image | imageHardcopy | likeness of natural or man-made features, objects, and activities acquired through the sensing of visual or any other segment of the electromagnetic spectrum by sensors, such as thermal infrared, and high resolution radar and reproduced on paper, photographic material, or other media for use directly by the human user |
| Digital map | mapDigital | map represented in raster or vector form |
| Hardcopy map | mapHardcopy | map printed on paper, photographic material, or other media for use |

| | | |
|------------------|-----------------|--|
| | dcopy | directly by the human user |
| Digital model | modelDigital | multi-dimensional digital representation of a feature, process, etc. |
| Hardcopy model | modelHardcopy | 3-dimensional, physical model |
| Digital profile | profileDigital | vertical cross-section printed on paper, etc. |
| Hardcopy profile | profileHardcopy | vertical cross-section printed on paper, etc. |
| Digital table | tableDigital | digital representation of facts or figures systematically displayed, especially in columns |
| Hardcopy table | tableHardcopy | representation of facts or figures systematically displayed, especially in columns, printed on papers, photographic material, or other media |
| Digital video | videoDigital | digital video recording |
| Hardcopy video | videoHardcopy | video recording on film |

CI_RoleCode

| Name | Domain Code | Definition |
|-----------------------|---------------|--|
| CI_RoleCode | RoleCd | function performed by the responsible party |
| resourceProvider | 001 | party that supplies the resource |
| custodian | 002 | party that accepts accountability and responsibility for the data and ensures appropriate care and maintenance of the resource |
| owner | 003 | party that owns the resource |
| user | 004 | party that uses the resource |
| distributor | 005 | party that distributes the resource |
| originator | 006 | party who created the resource |
| pointOfContact | 007 | party who can be contacted for acquiring knowledge about or acquisition of the resource |
| principalInvestigator | 008 | key party responsible for gathering information and conduction research |
| processor | 009 | party who has processed the data in a manner such that the resource has been modified |
| publisher | 010 | party who published the resource |
| author | 011 | party who authored the resource |

DS_InitiativeTypeCode

DS_initiativeTypeCode

| | Name | Domain Code | Definition |
|--|-----------|-------------|--------------------|
| | Code Name | Code | Domain: definition |

| | | |
|---------------|---------------|---|
| Campaign | campaign | series of organized planned actions |
| Collection | collection | accumulation of datasets assembled for a specific purpose |
| Exercise | exercise | specific performance of a function or group of functions |
| Experiment | experiment | process designed to find if something is effective or valid |
| Investigation | investigation | search or systematic inquiry |
| Mission | mission | specific operation of a data collection site |
| Sensor | sensor | device or piece of equipment which detects or records |
| Operation | operation | action that is part of a series of actions |
| Platform | platform | vehicle or other support base that holds a sensor |
| Process | process | method of doing something involving a number of steps |
| Program | program | specific planned activity |
| Project | project | organized undertaking, research, or development |
| Study | study | examination or investigation |
| Task | task | piece of work |
| Trial | trial | process of testing to discover or demonstrate something |

MD_CharacterSetCode

| Name | Domain Code | Definition |
|----------------------------|------------------|---|
| MD_CharacterSetCode | CharSetCd | name of the character coding standard used for the resource |
| ucs2 | 001 | 16-bit fixed size Universal Character set, based on ISO/IEC 10646 |
| ucs4 | 002 | 32-bit fixed size Universal Character set, based on ISO/IEC 10646 |
| utf7 | 003 | 7-bit variable size UCS Transfer Format, based on ISO/IEC 10646 |
| utf8 | 004 | 8-bit variable size UCS Transfer Format, based on ISO/IEC 10646 |
| utf16 | 005 | 16-bit variable size UCS Transfer Format, based on ISO/IEC 10646 |
| 8859part1 | 006 | ISO/IEC 8859-1, Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 1 |
| 8859part2 | 007 | ISO/IEC 8859-2, Information technology – 8-bit single-byte coded graphic character sets – Part 2: Latin alphabet No. 2 |
| 8859part3 | 008 | ISO/IEC 8859-3, Information technology – 8-bit single-byte coded graphic character sets – Part 3: Latin alphabet No. 3 |
| 8859part4 | 009 | ISO/IEC 8859-4, Information technology – 8-bit single-byte coded graphic character sets – Part 4: Latin alphabet No. 4 |
| 8859part5 | 010 | ISO/IEC 8859-5, Information technology – 8-bit single-byte coded graphic character sets – Part 5: Latin/Cyrillic alphabet |
| 8859part6 | 011 | ISO/IEC 8859-6, Information technology – 8-bit single-byte coded graphic character sets – Part 6: Latin/Arabic alphabet |
| 8859part7 | 012 | ISO/IEC 8859-7, Information technology – 8-bit single-byte coded graphic character sets – Part 7: Latin/Greek alphabet |
| 8859part8 | 013 | ISO/IEC 8859-8, Information technology – 8-bit single-byte coded graphic character sets – Part 8: Latin/Hebrew |
| 8859part9 | 014 | ISO/IEC 8859-9, Information technology – 8-bit single-byte coded graphic character sets – Part 9: Latin alphabet No. 5 |
| 8859part10 | 015 | ISO/IEC 8859-10, Information technology – 8-bit single-byte coded graphic character sets – Part 10: Latin alphabet No. 6 |

| | | |
|------------|-----|---|
| 8859part11 | 016 | ISO/IEC 8859-11, Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin/Thai alphabet |
| (reserved) | 017 | |
| 8859part13 | 018 | ISO/IEC 8859-13, Information technology – 8-bit single-byte coded graphic character sets – Part 13: Latin alphabet No. 7 |
| 8859part14 | 019 | ISO/IEC 8859-14, Information technology – 8-bit single-byte coded graphic character sets – Part 14: Latin alphabet No. 8 (Celtic) |
| 8859part15 | 020 | ISO/IEC 8859-15, Information technology – 8-bit single-byte coded graphic character sets – Part 15: Latin alphabet No. 9 |
| 8859part16 | 021 | ISO/IEC 8859-16, Information technology – 8-bit single-byte coded graphic character sets – Part 16: Latin alphabet No. 10 |
| jis | 022 | Japanese code set used for electronic transmission |
| shiftJIS | 023 | Japanese code set used on MS-DOS based machines |
| eusJP | 024 | Japanese code set used on UNIX based machines |
| usAscii | 025 | United States ASCII code set (ISO 646 US) |
| ebcdic | 026 | IBM mainframe code set |
| ecuKR | 027 | Korean code set |
| big5 | 028 | traditional Chinese code set used in Taiwan, Hong Kong of China and other areas |
| GB2312 | 029 | simplified Chinese code set |

MD_ClassificationCode

| Name | Domain Code | Definition |
|-----------------------|---------------|--|
| MD_ClassificationCode | ClasscationCd | name of the handling restrictions on the dataset |
| unclassified | 001 | available for general disclosure |
| restricted | 002 | not for general disclosure |
| confidential | 003 | available for someone who can be entrusted with information |
| secret | 004 | kept or meant to be kept private, unknown, or hidden from all but a select group of people |
| topSecret | 005 | of the highest secrecy |

MD_DatatypeCode

| Name | Domain Code | Definition |
|-----------------|-------------|--|
| MD_DatatypeCode | DatatypeCd | datatype of element or entity |
| class | 001 | descriptor of a set of objects that share the same attributes, operations, methods, relationships, and behaviors |
| codelist | 002 | flexible enumeration used for expressing a long list of values, can be extended |
| enumeration | 003 | data type whose instances form a list of named literal values, not extendable |
| codelistElement | 004 | permissible value for a codelist or enumeration |
| abstractClass | 005 | class that cannot be directly instantiated |
| aggregateClass | 006 | class that is composed of classes it is connected to by an aggregate |

| | | |
|-----------------|-----|--|
| | | relationship |
| specifiedClass | 007 | subclass that may be substituted for its superclass |
| datatypeClass | 008 | class with few or no operations; whose primary purpose is to hold the abstract state of another class for transmittal, storage, encoding or persistent storage |
| interfaceClass | 009 | named set of operations that characterize the behavior of an element |
| unionClass | 010 | class describing a selection of one of the specified types |
| metaClass | 011 | class whose instances are classes |
| typeClass | 012 | class used for specification of a domain of instances (objects), together with the operations applicable to the objects. A type may have attributes and associations |
| characterString | 013 | free text field |
| integer | 014 | numerical field |
| association | 015 | semantic relationship between two classes that involves connections among their instances |

MD_KeywordTypeCode

| Name | Domain Code | Definition |
|--------------------|-------------|--|
| MD_KeywordTypeCode | KeyTypeCd | methods used to group similar keywords |
| discipline | 001 | keyword identifies a branch of instruction or specialized learning |
| place | 002 | keyword identifies a location |
| stratum | 003 | keyword identifies the layer(s) of any deposited substance |
| temporal | 004 | keyword identifies a time period related to the dataset |
| theme | 005 | keyword identifies a particular subject or topic |
| taxon | 006 | keyword identifies a taxonomic name |
| Instrument | ADlwg-001 | keyword identifies an instrument |

MD_MaintenanceFrequencyCode

| Name | Domain Code | Definition |
|-----------------------------|-------------|--|
| MD_MaintenanceFrequencyCode | MaintFreqCd | frequency with which modifications and deletions are made to the data after it is first produced |
| continual | 001 | data is repeatedly and frequently updated |
| daily | 002 | data is updated each day |
| weekly | 003 | data is updated on a weekly basis |
| fortnightly | 004 | data is updated every two weeks |
| monthly | 005 | data is updated each month |
| quarterly | 006 | data is updated every three months |
| biannually | 007 | data is updated twice each year |
| annually | 008 | data is updated every year |
| asNeeded | 009 | data is updated as deemed necessary |
| irregular | 010 | data is updated in intervals that are uneven in duration |

| | | |
|------------|-----|--|
| notPlanned | 011 | there are no plans to update the data |
| unknown | 012 | frequency of maintenance for the data is not known |

MD_MediumFormatCode

| Name | Domain Code | Definition |
|----------------------------|------------------|--|
| MD_MediumFormatCode | MedFormCd | method used to write to the medium |
| cpio | 001 | CoPy In/Out (UNIX file format and command) |
| tar | 002 | Tape ARchive |
| highSierra | 003 | high sierra file system |
| iso9660 | 004 | information processing – volume and file structure of CD_ROM |
| iso9660RockRidge | 005 | rock ridge interchange protocol (UNIX) |
| iso9660AppleHFS | 006 | hierarchical file system (Macintosh) |

MD_MediumNameCode

| Name | Domain Code | Definition |
|----------------------------|------------------|--|
| MD_MediumNameCode | MedNameCd | name of the medium |
| cdRom | 001 | read-only optical disk |
| dvd | 002 | digital versatile disk |
| dvdRom | 003 | digital versatile disk, read-only |
| 3halfinchFloppy | 004 | 3.5 inch magnetic disk |
| 5quarterInchFloppy | 005 | 5.25 inch magnetic disk |
| 7trackTape | 006 | 7 track magnetic tape |
| 9trackTape | 007 | 9 track magnetic tape |
| 3480Cartridge | 008 | 3480 cartridge tape drive |
| 3490Cartridge | 009 | 3490 cartridge tape drive |
| 3580Cartridge | 010 | 3580 cartridge tape drive |
| 4mmCartridgeTape | 011 | 4 millimeter magnetic tape |
| 8mmCartridgeTape | 012 | 8 millimeter magnetic tape |
| 1quarterInchCartridge Tape | 013 | 0.25 inch magnetic tape |
| digitalLinearTape | 014 | half inch cartridge streaming tape drive |
| online | 015 | direct compute linkage |
| satellite | 016 | linkage through a satellite communication system |
| telephoneLink | 017 | communication through a telephone network |
| hardcopy | 018 | pamphlet or leaflet giving descriptive information |

MD_ObligationCode

| Name | Domain Code | Definition |
|------|-------------|------------|
|------|-------------|------------|

| MD_ObligationCode | ObCd | obligation of the element or entity |
|-------------------|------|--|
| mandatory | 001 | element is always required |
| optional | 002 | element is not required |
| conditional | 003 | element is required when a specific condition is met |

MD_ProgressCode

| Name | Domain Code | Definition |
|-------------------|-------------|--|
| MD_ProgressCode | ProgCd | status of the dataset or progress of a review |
| completed | 001 | production of the data has been completed |
| historicalArchive | 002 | data has been stored in an offline storage facility |
| obsolete | 003 | data is no longer relevant |
| onGoing | 004 | data is continually being updated |
| planned | 005 | fixed date has been established upon or by which the data will be created or updated |
| required | 006 | data needs to be generated or updated |
| underdevelopment | 007 | data is currently in the process of being created |

MD_RestrictionCode

| Name | Domain Code | Definition |
|-----------------------------|-------------|---|
| MD_RestrictionCode | RestrictCd | limitation(s) placed upon the access or use of the data |
| copyright | 001 | exclusive right to the publication, production, or sale of the rights to a literary, dramatic, musical, or artistic work, or to the use of a commercial print or label, granted by law for a specified period of time to an author, composer, artist, distributor |
| patent | 002 | government has granted exclusive right to make, sell, use or license an invention or discovery |
| patentPending | 003 | produced or sold information awaiting a patent |
| trademark | 004 | a name, symbol, or other device identifying a product, officially registered and legally restricted to the use of the owner or manufacturer |
| license | 005 | formal permission to do something |
| intellectualProperty Rights | 006 | rights to financial benefit from an control of distribution of non-tangible property that is a result of creativity |
| restricted | 007 | withheld from general circulation or disclosure |
| otherRestrictions | 008 | limitation not listed |

MD_ScopeCode

| Name | Domain Code | Definition |
|--------------|-------------|--|
| MD_ScopeCode | ScopeCd | class of information to which the referencing entity applies |

| | | |
|----------------------|-----|--|
| attribute | 001 | information applies to the attribute class |
| attributeType | 002 | information applies to the characteristic of a feature |
| collectionHardware | 003 | information applies to the collection hardware class |
| collectionSession | 004 | information applies to the collection session |
| dataset | 005 | information applies to the dataset |
| series | 006 | information applies to the series |
| nonGeographicDataset | 007 | information applies to non-geographic data |
| dimensionGroup | 008 | information applies to a dimension group |
| feature | 009 | information applies to a feature |
| featureType | 010 | information applies to a feature type |
| propertyType | 011 | information applies to a property type |
| fieldSession | 012 | information applies to a field session |
| software | 013 | information applies to a computer program or routine |
| service | 014 | information applies to a capability which a service provider makes available to a service user entity through a set of interfaces that define a behavior, such as a use case |
| model | 015 | information applies to a copy or imitation of an existing or hypothetical object |
| tile | 016 | information applies to a tile, a spatial subset of geographic data |

MD_SpatialRepresentationTypeCode

| Name | Domain Code | Definition |
|----------------------------------|--------------|--|
| MD_SpatialRepresentationTypeCode | SpatRepTypCd | method used to represent geographic information in the dataset |
| vector | 001 | vector data is used to represent geographic data |
| grid | 002 | grid data is used to represent geographic data |
| textTable | 003 | textual or tabular data is used to represent geographic data |
| tin | 004 | triangle irregular network |
| stereoModel | 005 | three-dimensional view formed by the intersecting homologous rays of an overlapping pair of images |
| video | 006 | scene from a video recording |

MD_TopicCategoryCode

| Name | Domain Code | Definition |
|----------------------|-------------|--|
| MD_TopicCategoryCode | TopicCatCd | high-level geographic data thematic classification to assist in the grouping and search of available geographic data sets. Can be used to group keywords as well. Listed examples are not exhaustive. NOTE It is understood there are overlaps between general categories and the user is encouraged to select the one most appropriate |
| farming | 001 | rearing of animals and/or cultivation of plants |

| | | |
|--|-----|---|
| biota | 002 | flora and/or fauna in natural environment |
| boundaries | 003 | legal land descriptions |
| climatology Meteorology Atmosphere | 004 | processes and phenomena of the atmosphere |
| economy | 005 | economic activities, conditions and employment |
| elevation | 006 | height above or below sea level |
| environment | 007 | environment resources, protection and conservation |
| geoscientific Information | 008 | information pertaining to earth sciences |
| health | 009 | health, health services, human ecology, and safety |
| imageryBaseMaps EarthCover | 010 | base maps |
| intelligenceMilitary | 011 | military bases, structures, activities |
| inlandWaters | 012 | inland water features, drainage systems and their characteristics |
| location | 013 | positional information and services |
| oceans | 014 | features and characteristics of salt water bodies (excluding inland waters) |
| planningCadastre | 015 | information used for appropriate actions for future use of the land |
| society | 016 | characteristics of society and cultures |
| structure | 017 | man-made construction |
| transportation | 018 | means and aids for conveying persons and/or goods |
| utilitiesCommunication | 019 | energy, water and waste systems, and communications infrastructure and services |

NOAA Defined SRS

| Name | Definition |
|--------------------------|---|
| Spatial reference system | Spatial reference systems for which NOAA maintains ISO 19115 code blocks. Note: this is an ISO enumeration (not an ISO codeList). |
| NAD27 | North American Datum 1927 EPSG::4267 |
| NAD83 | North American Datum 1983 EPSG::4269 |
| Clarke1866 | Clarke 1866 EPSG::7008 |
| GRS80 | Geodetic Reference System 1980 EPSG::7019 |
| WGS84 | World Geodetic System 1984 EPSG::4326 (default) |
| NAVD88 | North American Vertical Datum EPSG::5103 |
| MLW | Mean Low Water depth EPSG::5867 |
| MLLW | Mean Lower Low Water depth EPSG::5866 |
| MHW | Mean High Water height EPSG::5868 |
| MHHW | Mean Higher High Water height EPSG::5869 |

