ISO 19115 Metadata Class Definitions

1. Metadata entity set information (xmlns: gmd) MD_Metadata

	Name / Role	Short Name	Definition	Obligation	Max	Type
1	MI_Metadata	Metadata	root entity which defines metadata about a resource or resources	M	1	Class
2	fileIdentifier	mdFileId	unique identifier for this metadata file	R	1	String
3	language	mdLang	language used for documenting metadata	R	1	ISO 639-2
4	characterSet	mdChar	full name of the character coding standard used for the metadata set	R	1	MD_CharacterSetCode
5	parentIdentifier	mdParentID	file identifier of the metadata to which this metadata is a subset (child)	O	1	String
6	hierarchyLevel	mdHrLv	scope to which the metadata applies	R	N	MD_ScopeCode
7	contact	mdContact	party responsible for metadata information (metadata custodian)	M	N	CI_ResponsibleParty
8	dateStamp	mdDateSt	data that the metadata was created	M	1	Date
9	metadataStandardName	mdStanName	name of the metadata standard used	R	1	String
10	metadataStandardVersion	mdStanVer	version (profile) of the metadata standard used	R	1	String
11	dataSetURI	dataSetURI	Uniform Resource Identifier (URI) of the dataset to which the metadata applies	R	1	String
12	referenceSystemInfo	refSysInfo	description of the spatial and temporal reference systems used in the dataset	R	N	attributes or MD_ReferenceSystem
13	metadataExtensionInfo	mdExtInfo	information describing the extension to metadata – NOTE: required to include TAXON for biological extension	O	N	MD_MetadataExtension Information
14	identificationInfo	dataIdInfo	basic information about the resource(s) to which the metadata applies	M	N	MD_Identification

	Name / Role	Short Name	Definition	Obligation	Max	Type
15	contentInfo	contInfo	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	O	N	MD_ContentInformation
16	distributionInfo	distInfo	provides information about the distributor of and options for obtaining the resource(s)	O	1	MD_Distribution
17	dataQualityInfo	dqInfo	provides overall assessment of quality of a resource(s)	O	N	MD_DataQuality
18	metadataMaintenance	mdMaint	provides information about the frequency of metadata updates, and the scope of those updates	O	1	MD_Maintenance Information

2. Identification information (xmlns: gmd) {super-type} MD_Identification

MD_DataIdentification

	Name / Role	Short Name	Definition	Obligation	Max	Type
20	MD_Identification {super-type}	Ident	basic information required to uniquely identify a resource or resources, these super-type fields apply to all subtypes.	M	1	Class
21	citation	idCitation	citation data for the resource(s)	M	1	CI_Citation
22	abstract	idAbs	brief narrative summary of the content of the resource(s)	M	1	String
23	purpose	idPurp	summary of the intentions with which the resource(s) was developed	R	1	String
24	credit	idCredit	recognition of those who contributed to the resource(s)	R	N	String
25	status	idStatus	status of the resource(s)	R	N	MD_ProgressCode

	Name / Role	Short Name	Definition	Obligation	Max	Type
26	pointOfContact	idPoC	identification of, and means of communication with, person(s) and organizations(s) associated with the resource(s)	R	N	CI_ResponsibleParty
27	resourceMaintenance	resMaint	provides information about the frequency of resource updates, and the scope of those updates	O	N	MD_Maintenance Information
28	graphicOverview	graphOver	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	O	N	MD_BrowseGraphic
29	resourceFormat	dsFormat	provides a description of the format of the resource(s)	O	N	MD_Format
30	descriptiveKeywords	descKeys	provides category keywords, their type, and reference source	R	N	MD_Keywords
31	resourceSpecificUsage	idSpecUse	provides basic information about specific application(s) for which the resource(s) has/have been or is being used by different users	O	N	MD_Usage
32	resourceConstraints	resConst	provides information about constraints which apply to the resource(s)	O	N	MD_Constraints
40	MD_DataIdentification / {sub-type}	DataIdent	information required to identify a dataset (for data resources include the following attributes with the super-type attributes above)	M	1	Class
41	taxonomy	taxonomy	information on the taxa (1 or more) included in the data set, including keywords, taxonomic system and coverage information, and taxonomic classification system	O	1	MD_Taxonsys

	Name / Role	Short Name	Definition	Obligation	Max	Type
42	spatialRepresentationType	spatRpType	method used to spatially represent geographic information – NOTE: the data file type	R	N	MD_Spatial Representation TypeCode
43	spatialResolution	dataScale	factor which provides a general understanding of the density of spatial data in the dataset	R	N	MD_Resolution
44	language	dataLang	language(s) used within the dataset	M	N	ISO 639-2
45	topicCategory	tpCat	main theme(s) of the dataset – NOTE: only if hierarchy level equals 'dataset'	R	N	MD_TopicCategory Code
46	environmentDescription	envirDesc	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	O	1	String
45	extent	dataExt	extent information including the bounding box, bounding polygon, vertical, and temporal extent of the dataset – NOTE: only if hierarchy level equals 'dataset'	R	N	EX_Extent
46	supplementalInformation	suppInfo	any other descriptive information about the dataset	O	1	String

3. Browse graphic information (xmlns: gmd) MD_BrowseGraphic

	Name / Role	Short Name	Definition	Obligation	Max	Type
390	MD_BrowseGraphic	BrowGraph	graphic that provides an illustration of the dataset (should include a legend for the graphic) Note: use for logical and physical data models	O	N	Class
391	filename	bgFileName	name of the file that contains a graphic that provides an illustration of the dataset	M	1	String

	Name / Role	Short Name	Definition	Obligation	Max	Type
392	fileDescription	bgFileDesc	text description of the illustration	O	1	String
393	fileType	bgFileType	format in which the illustration is encoded; examples (PDF, JPEG, TIFF)	O	1	String

4. Keyword information (xmlns: gmd) MD_Keywords

	Name / Role	Short Name	Definition	Obligation	Max	Type
50	MD_Keywords	keywords	keywords, their type and reference source	R	N	Class
51	keyword	keyword	commonly used word(s) or formalized word(s) or phrase(s) used to describe the subject	M	N	String
52	type	keyTyp	subject matter used to group similar keywords	R	1	MD_KeywordTypeCode
53	thesaurusName	thesaName	name of the formally registered thesaurus or a similar authoritative source of keywords; tag attribute xlink:href="" provides link to online thesaurus	O	1	CI_Citation

5. Representative fraction information (xmlns: gmd) MD_RepresentativeFraction

	Name / Role	Short Name	Definition	Obligation	Max	Type
60	MD_Representative Fraction	RepFract	derived from ISO 19103 Scale where MD_RepresentativeFraction.denominator = 1 / Scale.measure And Scale.targetUnits = Scale.sourceUnits	R	N	Class
61	denominator	rfDemon	the number below the line in a vulgar fraction	M	1	positive integer

6. Resolution information (xmlns: gmd) MD_Resolution

	Name / Role	Short Name	Definition	Obligation	Max	Type
70	MD_Resolution	Resol	level of detail expressed as a scale factor or a ground distance	R	N	Class
71	equivalentScale	equScale	level of detail expressed as the scale of a comparable hardcopy map or chart	M (only one)	1	MD_Representative Fraction
72	distance	scaleDist	ground sample distance		1	Distance

7. Usage information (xmlns: gmd) MD_Usage

	Name / Role	Short Name	Definition	Obligation	Max	Type
80	MD_Usage	Usage	brief description of ways in which the resource(s) is/are currently or has been used	R	N	Class
81	specificUsage	specUsage	brief description of the resource and/or resource series usage	M	1	String
82	userDeterminedLimitations	usrDetLim	applications, determined by the user for which the resource and/or resource series is not suitable	R	1	String
83	userContactInfo	usrCntInfo	identification of and means of communicating with the person(s) and organization(s) using the resource(s)	M	N	CI_ResponsibleParty

8. Constraints (xmlns: gmd) MD_Constraints

	Name / Role	Short Name	Definition	Obligation	Max	Type
90	MD_Constraints {sub-type}	Consts	restrictions on the access and use of a resource or metadata	O	N	Class
91	useLimitation	useLimit	limitation affecting the fitness for use of the resource or metadata – Example, “not to be used for navigation”	M	N	String

9. Legal Constraints (xmlns: gmd) MD_LegalConstraints

	Name / Role	Short Name	Definition	Obligation	Max	Type
610	MD_LegalConstraints {sub-type}	LegConsts	restrictions and legal prerequisites for accessing and using the resource or metadata	O	N	Class
611	accessConstraints	accessConsts	access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the resource or metadata	O	N	MD_RestrictionCode
612	useConstraints	accessConsts	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	O	N	MD_RestrictionCode
613	otherConstraints	othConsts	other restrictions and legal prerequisites for accessing and using the resource or metadata	O	N	String

10. Security Constraints (xmlns: gmd) MD_SecurityConstraints

	Name / Role	Short Name	Definition	Obligation	Max	Type
620	MD_SecurityConstraints {sub-type}	SecConsts	handling restrictions imposed on the resource or metadata for national security or similar security concerns	O	N	Class
621	classification	class	name of the handling restrictions on the resource or metadata	M	N	MD_ClassificationCode
622	userNote	userNote	explanation of the application of the legal constraints or other restrictions and legal prerequisites for obtaining and using the resource or metadata	O	1	String
623	classificationSystem	classSys	name of the classification system	O	1	String
624	handlingDescription	handDesc	additional information about the restrictions on handling the resource or metadata	O	1	String

11. Data quality information – general (xmlns: gmd) DQ_DataQuality

	Name / Role	Short Name	Definition	Obligation	Max	Type
120	DQ_DataQuality	DataQual	quality information for the data specified by a data quality scope	R	1	Class
121	scope	dqScope	the specific data to which the data quality information applies	M	1	DQ_Scope
122	report	dqReport	quantitative quality information for the data specified by the scope	R (one or both)	N	DQ_Element {abstract class}
123	lineage	dataLineage	non-quantitative quality information about the lineage of the data specified by the scope		1	LI_Lineage

12. Lineage information – general (xmlns: gmd) LI_Lineage

	Name / Role	Short Name	Definition	Obligation	Max	Type
130	LI_Lineage	Lineage	information about the events or source data used in constructing the data specified by the scope or lack of knowledge about the lineage	R	N	Class
131	statement	statement	general explanation of the data producer's knowledge about the lineage of a dataset	R	1	String
132	processStep	prcStep	information about events in the life of a dataset specified by the scope	R	N	LI_ProcessStep
133	source	dataSource	information about the source data used in creating the data specified by the scope	O	N	LI_Source

13. Lineage process step information (xmlns: gmd) LI_ProcessStep

	Name / Role	Short Name	Definition	Obligation	Max	Type
140	LI_ProcessStep	PrcessStep	information about an event or transformation in the life of a dataset including the process used to maintain the dataset	R	N	Class
141	description	stepDesc	description of the event, including related parameters or tolerances	M	1	String
142	rationale	stepRat	requirement or purpose for the process step	R	1	String
143	dateTime	stepDateTm	date and time or range of date and time on or over which the process step occurred	R	1	DateTime
144	processor	stepProc	identification of, and means of communication with, person(s) and organization(s) associated with the process step	R	N	CI_ResponsibleParty

14. Lineage source information (xmlns: gmd) LI_Source

	Name / Role	Short Name	Definition	Obligation	Max	Type
150	LI_Source	Source	information about the source data used in creating the data specified by the scope	O	N	Class
151	description	srcDesc	detailed description of the level of the source data	M	1	String
152	sourceCitation	srcCitatn	recommended reference to be used for the source data	R	1	CI_Citation

15. Data quality scope information (xmlns: gmd) DQ_Scope

	Name / Role	Short Name	Definition	Obligation	Max	Type
160	DQ_Scope	DQScope	extent of characteristic(s) of the data for which quality information is reported	R	N	Class
161	level	scpLvl	hierarchical level of the data specified by the scope	M	1	MD_ScopeCode

16. Maintenance information – general (xmlns: gmd) MD_MaintenanceInformation

	Name / Role	Short Name	Definition	Obligation	Max	Type
170	MD_Maintenance Information	MaintInfo	information about the scope and frequency of updating	R	N	Class
171	maintenanceAndUpdate Frequency	maintFreq	frequency with which changes and additions are made to the resource is completed	M	1	MD_Maintenance FrequencyCode
172	maintenanceNote	maintNote	information regarding specific requirements for maintaining the resource	O	N	String

17. Content information (includes Feature Catalogue and Coverage descriptions) (xmlns: gmd)

MD_ContentInformation

MD_FeatureCatalogue

	Name / Role	Short Name	Definition	Obligation	Max	Type
180	MD_ContentInformation {abstract} {super-type}	ContInfo	description of the content of a dataset	O	N	Abstract Class
190	MD_FeatureCatalogue {sub-type}	FetCatDesc	information identifying the feature catalogue or the conceptual schema	M (only sub-type implemented	N	Class
191	complianceCode	compCode	indication of whether or not the cited feature catalogue complies with AIO 19110	R	1	Boolean
192	language	catLang	language(s) used within the catalogue	R	N	String
193	includedWithDataset	incWithDS	indication of whether or not the feature catalogue is included with the dataset	M	1	Boolean
194	featureCatalogueCitation	catCitation	complete bibliographic reference to one or more external feature catalogues	M	N	CI_Citation

18. Distribution information – general (xmlns: gmd) MD_Distribution

	Name / Role	Short Name	Definition	Obligation	Max	Type
200	MD_Distribution	Distrib	information about the distributor of and options for obtaining the resource	R	N	Class
201	distributor	distributor	provides information about the distributor	M	N	MD_Distributor

19. Digital transfer options information (xmlns: gmd) MD_DigitalTransferOptions

	Name / Role	Short Name	Definition	Obligation	Max	Type
210	MD_DigitalTransfer Options	DigTranOps	technical means and media by which a resource is obtained from the distributor	R	N	Class
211	onLine	onLineSrc	information about online sources from which the resource can be obtained	O	N	CI_OnlineResource
212	offLine	offLineMed	information about offline media on which the resource can be obtained	O	1	MD_Medium

20. Distributor information (xmlns: gmd) MD_Distributor

	Name / Role	Short Name	Definition	Obligation	Max	Type
220	MD_Distributor	Distributor	information about the distributor	R	N	Class
221	distributorContact	distorCont	party from whom the resource may be obtained – NOTE: this list need not be exhaustive	M	1	CI_ResponsibleParty
222	distributionOrderProcess	distorOrdPrc	provides information about how the resource may be obtained, and related instructions and fee information	O	N	MD_StandardOrderProcess
223	distributorFormat	distorFormat	provides information about the format used by the distributor	O	N	MD_Format
224	distributorTransferOptions	distorTran	provides information about the technical means and media used by the distributor	O	N	MD_DigitalTransferOptions

21. Format information (xmlns: gmd) MD_Format

	Name / Role	Short Name	Definition	Obligation	Max	Type
230	MD_Format	Format	description of the computer language construct that specifies the representation of data objects in a record, file, message, storage device or transmission channel	R	N	Class
231	name	formatName	name of the data transfer format(s)	M	1	String
232	version	formatVer	version of the format (date, number, etc.)	M	1	String

22. Medium information (xmlns: gmd) MD_Medium

	Name / Role	Short Name	Definition	Obligation	Max	Type
240	MD_Medium	Medium	information about the media on which the resource can be distributed	R	N	Class
241	name	medName	name of the medium on which the resource can be received	R	1	MD_MediumNameCode
242	mediumFormat	medFormat	method used to write to the medium	R	N	MD_MediumFormatCode
243	mediumNote	medNote	description of other limitations or requirements for using the medium	O	1	String

23. Standard order process information (xmlns: gmd) MD_StandardOrderProcess

	Name / Role	Short Name	Definition	Obligation	Max	Type
100	MD_StandardOrder Process	StanOrdProc	common ways in which the resource may be obtained or received, and related instructions and fee information	O	N	Class
101	fees	resFees	fees and terms for retrieving the resource, including monetary units (as specified in ISO 4217)	O	1	String
102	plannedAvailabilityDate Time	planAvDtTm	data and time when the resource will be available	O	1	DateTime
103	orderingInstructions	ordInstr	general instructions, terms and services provided by the distributor	O	1	String
104	turnaround	ordTurn	typical turnaround time for the filling of an order	O	1	String

24. Extent information – general (xmlns: gmd) EX_Extent

	Name / Role	Short Name	Definition	Obligation	Max	Type
250	EX_Extent	Extent	information about horizontal, vertical, and temporal extents	R	N	Class
251	description	exDesc	spatial and temporal extent for the referring object	M (one or more)	1	String
252	geographicElement	geoEle	provides geographic component of the extent of the referring object		N	geographicElement {abstract}
253	temporalElement	tempEle	provides temporal component of the extent of the referring object		N	EX_TemporalExtent
254	verticalElement	vertEle	provides vertical component of the extent of the referring object		N	EX_VericalExtent

25. Geographic element (polygon, bounding box, and description) (xmlns: gmd)

{abstract} {super-type} geographicElement

EX_BoundingPolygon

EX_GeographicBoundingBox

	Name / Role	Short Name	Definition	Obligation	Max	Type
260	geographicElement {abstract} {super-type}	GeoExtent	geographic area or the dataset	R – Common	N	Abstract Class
270	EX_BoundingPolygon {sub-type}	BoundPoly	boundary enclosing the dataset, expressed as the closed set of (x,y) coordinates of the polygon (last point replicates first point)	O	N	Class

	Name / Role	Short Name	Definition	Obligation	Max	Type
271	extentTypeCode	exTypeCode	indication of whether the bounding polygon encompasses an area covered by the data or an area where the data is not present	O	1	Boolean
272	polygon	polygon	set of points defining the bounding polygon	M	N	Polygon
280	EX_Geographic BoundingBox {sub-type}	GeoBndBox	geographic position of the dataset – NOTE: This is only an approximate reference so specifying the coordinate reference system is unnecessary	O	N	Class
281	extentTypeCode	exTypeCode	indication of whether the bounding polygon encompasses an area covered by the data or an area where the data is not present	O	1	Boolean
282	westBoundLongitude	westBL	western-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east)	M	1	Angle
283	eastBoundLongitude	eastBL	eastern-most coordinate of the limit of the dataset extent, expressed in longitude in decimal degrees (positive east)	M	1	Angle
284	southBoundLatitude	southBL	southern-most coordinate of the limit of the dataset extent, expressed in latitude in decimal degrees (positive north)	M	1	Angle
285	northBoundLatitude	northBL	northern-most coordinate of the limit of the dataset extent, expressed in latitude in decimal degrees (positive north)	M	1	Angle

26. Temporal extent information (xmlns: gmd) EX_TemporalExtent

	Name / Role	Short Name	Definition	Obligation	Max	Type
300	EX_TemporalExtent	TempExtent	time period covered by the content of the dataset	R	N	Class
301	extent	exTemp	date and time for the content of the dataset	M	1	TM_Primitive

27. Vertical extent information (xmlns: gmd) EX_VerticalExtent

	Name / Role	Short Name	Definition	Obligation	Max	Type
310	EX_VerticalExtent	VertExtent	vertical domain of dataset	O	N	Class
311	minimumValue	vertMinVal	lowest vertical extent contained in the dataset	M	1	Real
312	maximumValue	vertMaxVal	highest vertical extent contained in the dataset	M	1	Real
313	verticalCRS	vertCRS	coordinate reference system for the vertical axis	M	1	tag attributes

28. Polygon information (xmlns: gml) Polygon

	Name / Role	Short Name	Definition	Obligation	Max	Type
110	Polygon	Polygon	a polygon shall have an outer boundary ring, it may have 0 or more inner boundary rings, each ring is defined by a LinearRing, it is advised that rings do not cross each other; final point must close to the initial point; tag attribute gml:id="" is required; tag attributes srsDimension="" (dimensions in coordinate) and srsName="" (name of coordinate system) are recommended	O	N	Class
111	metaDataProperty	pointMeta Prop	an metadata property native to another class but associated with the Point class to define some characteristic of the point	O	N	GenericMetaData
112	description	polyDesc	description of polygon set	O	1	String
113	name	polyName	name for polygon set	O	1	String
114	exterior	polyExt	outer boundary ring	M (one or both)	1	LinearRing
115	interior	polyInt	interior boundary ring – area of exclusion		N	LinearRing

29. Linear Ring (xmlns: gml) LinearRing

	Name / Role	Short Name	Definition	Obligation	Max	Type
290	LinearRing	LineRing	defines a closed line string that should not cross itself	O	1	Class
291	pos	lineRingPos	longitude, latitude, and optional elevation for each point in the linear ring; separate positions by a comma; must have 4 or more points	M (choose one of)	N	String
292	coordinates	lineRingCoord	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		1	String

30. LineString (xmlns: gml) LineString

	Name / Role	Short Name	Definition	Obligation	Max	Type
610	LineString	LineString	defines a sequence of points; tag attributes srsDimension="" (dimensions in coordinate) and srsName="" (name of coordinate system) are recommended	O	1	Class
611	metaDataProperty	pointMeta Prop	an metadata property native to another class but associated with the Point class to define some characteristic of the point	O	N	GenericMetaData
612	description	lineStrDesc	description of line string	O	1	String
613	name	lineStrName	name for the line string	O	1	String
614	pos	lineStrPos	longitude, latitude, and optional elevation for each point in the line string; separate positions by a comma; must have 4 or more points	M (choose one of)	N	String
615	coordinates	lineStrCoord	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		1	String

31. MultiGeometry (xmlns: gml) MultiGeometry

	Name / Role	Short Name	Definition	Obligation	Max	Type
620	MultiGeometry	MultiGeo	Defines a collection of geometries; tag attributes srsDimension="" (dimensions in coordinate) and srsName="" (name of coordinate system) are recommended	O	1	Class
621	description	multiGeoDesc	description of the multi-geometry collection	O	1	String
622	name	multiGeoName	name for the multi-geometry collection	O	1	String
623	gemoetryMembers	multiGeoMbr	one or more geometries that comprise the multi-point collection	M	1	Point

32. Point (xmlns: gml) Point

	Name / Role	Short Name	Definition	Obligation	Max	Type
630	Point	Point	defines a single geographic or geometric point; tag attributes srsDimension="" (dimensions in coordinate) and srsName="" (name of coordinate system) are recommended	O	1	Class
631	metaDataProperty	pointMeta Prop	an metadata property native to another class but associated with the Point class to define some characteristic of the point	O	N	GenericMetaData
631	description	pointDesc	description for the point	O	1	String

	Name / Role	Short Name	Definition	Obligation	Max	Type
632	identifier	pintId	a local or controlled identifier for the point	O	1	String
633	name	pointName	name for the point	O	1	String
634	pos	pointPos	longitude, latitude, and optional elevation the point	M (choose one of)	N	String
635	coordinates	pointCoord	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		1	String

33. GenericMetaData (xmlns: gml) GenericMetaData

	Name / Role	Short Name	Definition	Obligation	Max	Type
640	GenericMetaData	GenMetaData	allows specification of additional attributes to a Point (there are over 600+ attributes from the GMD, GCO, and GML namespaces which are allowed within this class	O	N	Class
641	Date	genMetaDate	date string	M (choose one of)	1	String
642	TimeInstant	genTimeInst	a discrete instant in time (date, time, UTC offset)		1	TimeInstant
643	TimePeriod	genTimePerd	a period of time marked by a beginning and ending datetime		1	TimePeriod

34. Citation information (xmlns: gmd) CI_Citation

	Name / Role	Short Name	Definition	Obligation	Max	Type
320	CI_Citation	Citation	standardized resource reference	set by referring object	N	Class
321	title	resTitle	name by which the cited resource is known	M	1	String
322	date	resRefDate	reference date for the cited resource	M	N	CI_Date
323	citedResponsibleParty	citRespParty	name and position for an individual	O	N	CI_ResponsibleParty

35. Responsible party information (xmlns: gmd) CI_ResponsibleParty

	Name / Role	Short Name	Definition	Obligation	Max	Type
330	CI_ResponsibleParty	RespParty	identification of, and means of communication with, person(s) and organization(s) associated with the dataset	set by referring object	N	Class
331	individualName	rpIndName	name of the responsible person – surname, given name, title separated by a delimiter	M (one or more)	1	String
332	organizatinName	rpOrgName	name of the responsible organization		1	String
333	positionName	rpPosName	role or position of the responsible person		1	String
334	contactInfo	rpContInfo	address of the responsible party	R	1	CI_Contact
335	role	role	function performed by the responsible party	M		CI_RoleCode

36. Address information (xmlns: gmd) CI_Address

	Name / Role	Short Name	Definition	Obligation	Max	Type
340	CI_Address	Address	location of the responsible individual or organization	R	N	Class
341	deliveryPoint	delPoint	address line for the location	R	N	String
342	city	city	city of the location	R	1	String
343	administrativeArea	adminArea	state, province of the location	R	1	String
344	postalCode	postcode	ZIP or other postal code	R	1	String
345	country	country	country of the physical address	R	1	String
346	electronicMailAddress	eMailAdd	address of the electronic mailbox of the responsible organization or individual	R	N	String

37. Contact information (xmlns: gmd) CI_Contact

	Name / Role	Short Name	Definition	Obligation	Max	Type
350	CI_Contact	Contact	information required to enable contact with the responsible person and/or organization	set by referring object	N	Class
351	phone	cntPhone	telephone number at which the organization or individual may be contancted	R	1	CI_Telephone
352	address	cntAddress	physical and email address at which the organization or individual may be contacted	R	1	CI_Address
353	onlineResource	cntOnlineRes	on-line information that can be used to contact the individual or organization	R	1	CI_OnlineResource
354	contactInstructions	cntInstr	supplemental instructions on how or when to contact the individual or organization	R	1	String

38. Date information (xmlns: gmd) CI_Date

	Name / Role	Short Name	Definition	Obligation	Max	Type
360	CI_Date	DateRef	reference date and event used to describe it	set by referring object	N	Class
361	date	refDate	reference date for the cited resource	M	1	Date
362	dateType	refDateType	event used for reference date	M	1	CI_DateTypeCode

39. OnLine resource information (xmlns: gmd) CI_OnlineResource

	Name / Role	Short Name	Definition	Obligation	Max	Type
370	CI_OnlineResource	OnlineRes	information about on-line sources from which the dataset, specification, or community profile name and extended metadata elements can be obtained	R	N	Class
371	linkage	linkage	location (address) for on-line access using a Uniform Resource Locator address or similar addressing scheme such as http://www.statkart.no/isotc211	M	1	URL
372	name	orName	name of the online resource	O	1	String
373	description	orDesc	detailed text description of what the online resource is/does	O	1	String
374	function	orFunct	code for function performed by the online resource	O	1	CI_OnLineFunctionCode

40. Telephone information (xmlns: gmd) CI_Telephone

	Name / Role	Short Name	Definition	Obligation	Max	Type
380	CI_Telephone	Telephone	telephone numbers for contacting the responsible individual or organization	R	N	Class
381	voice	voiceNum	telephone number by which individuals can speak to the responsible organization or individual	R	N	String
382	facsimile	faxNum	telephone number of a facsimile machine for the responsible organization or individual	O	N	String

41. Data Quality Element information (xmlns: gmd) DQ_Element

gmi:QE_Usability
DQ_LogicalCompleteness
DQ_CompletenessCommission
DQ_CompletenessOmission
DQ_LogicalConsistency
DQ_ConceptualConsistency
DQ_DomainConsistency
DQ_FormalConsistency
DQ_TopologicalConsistency

DQ_PositioinalAccuracy
DQ_AbsoluteExternalPositionalAccuracy
DQ_GriddedDataPositionalAccuracy
DQ_RelativeInternalPositionalAccuracy
DQ_TemporalAccuracy
DQ_AccuracyOfATimeMeasurement
DQ_TemporalConsistency
DQ_TemporalValidity
DQ_ThematicAccuracy
DQ_ThematicClassificationCorrectness
DQ_NonQuantitativeAttributeAccuracy
DQ_QuantitativeAttributeAccuracy

	Name / Role	Short Name	Definition	Obligation	Max	Type
390	DQ_Element {super-type}	DQElement	aspect of quantitative quality informantion			Abstract Class
391	nameOfMeasure	measName	name of the test applied to the data	O	N	String
392	measureIdentification	measId	code identifying a registered standard procedure	O	1	MD_Identifier
393	measureDescription	measDesc	description of the measure	O	1	String
394	dateTime	measDateTm	data or range of dates on which a data quality measure was applied	O	N	DateTime

	Name / Role	Short Name	Definition	Obligation	Max	Type
395	result	measResult	value (or set of values) obtained from applying a data quality measure or the outcome of evaluating the obtained value (or set of values) aganes a specified acceptable conformance quality level	M	2	DQ_Result
400	QE_Usability {sub-type of DQ_Element}	Usability	degree of adherence of a dataset to a specific set of user requirements	O		Class
410	DQ_LogicalCompleteness {sub-type of DQ_Element} {super-type}	DQComplete	presence and absence of features, their attributes and their relationship	O		Abstract Class
420	DQ_Completeness Commission {sub-type of DQ_LogicalCompleteness}	DQComp Comm	excess data present in the dataset, as described by the scope	O		Class
430	DQ_Completeness Omission {sub-type of DQ_LogicalCompleteness}	DQCompOm	data absent from the dataset, as described by the scope	O		Class
440	DQ_LogicalConsistency {sub-type of DQ_Element} {super-type}	DQLogConsis	degree of adherence to logical rules of data structure, attribution, and relationships (data structure can be conceptual, logical or physical)	O		Abstract Class
450	DQ_Conceptual Consistency {sub-type of DQ_LogicalConsistency}	DQConConsis	adherence to the rules of the conceptual schema	O		Class
460	DQ_DomainConsistency {sub-type of DQ_LogicalConsistency}	DQDom Consis	adherence of the values to the value domains	O		Class

	Name / Role	Short Name	Definition	Obligation	Max	Type
470	DQ_FormatConsistency {sub-type of DQ_LogicalConsistency}	DQForm Consis	degree to which data is stored in accordance with the physical structure of the dataset, as described by the scope	O		Class
480	DQ_Topological Consistency {sub-type of DQ_LogicalConsistency}	DQTopConsis	correctness of the explicitly encoded topological characteristics of the dataset as described by the scope	O		Class
490	DQ_PositionalAccuracy {sub-type of DQ_Element} {super-type}	DQPosAcc	accuracy of the position of features	O		Abstract Class
500	DQ_AbsoluteExternal PositionalAccuracy {sub-type of DQ_PositionalAccuracy}	DQAbsExt PosAcc	closeness of reported coordinate values to values accepted as or being true	O		Class
510	DQ_GriddedData PositionalAccuracy {sub-type of DQ_PositionalAccuracy}	DQGridData PosAcc	closeness of gridded data position values to values accepted as or being true	O		Class
520	DQ_RelativeInternal PositionalAccuracy {sub-type of DQ_PositionalAccuracy}	DQRelInt PosAcc	closeness of the relative positions of features in the scope to their respective relative positions accepted as or being true	O		Class
530	DQ_TemporalAccuracy {sub-type of DQ_Element} {super-type}	DQTempAcc	accuracy of the temporal attributes and temporal relationships of features	O		Abstract Class
540	DQ_AccuracyOfATime Measurement {sub-type of DQ_TemporalAccuracy}	DQAccTime Meas	correctness of the temporal references of an item (reporting of error in time measurement)	O		Class
550	DQ_TemporalConsistency {sub-type of DQ_TemporalAccuracy}	DQTemp Consis	correctness of ordered events or sequences, if reported	O		Class

	Name / Role	Short Name	Definition	Obligation	Max	Type
560	DQ_TemporalValidity {sub-type of DQ_TemporalAccuracy}	DQTemp Valid	validity of data specified by the scope with respect to time	O		Class
570	DQ_ThematicAccuracy {sub-type of DQ_Element} {super-type}	DQThemAcc	accuracy of quantitative attributes and the correctness of non-quantitative attributes and of the classifications of features and their relationships	O		Abstract Class
580	DQ_ThematicClassification Correctness {sub-type of DQ_ThematicAccuracy}	DQThem ClassCor	comparison of the classes assigned to features or their attributes to a universe of discourse	O		Class
590	DQ_NonQuantitative AttributeAccuracy {sub-type of DQ_ThematicAccuracy}	DQNonQuan AttAcc	accuracy of non-quantitative attributes	O		Class
600	DQ_QuantitativeAttribute Accuracy {sub-type of DQ_ThematicAccuracy}	DQQuan AttAcc	accuracy of quantitative attributes	O		Class