

Extent Content in CMR Metadata

Interim Collection Comparison Report for Big Earth Data Initiative

Metadata Source: NASA Common Metadata Repository

Metadata Dialect: ISO 19115-2

Evaluation Target: Spatial Extent Elements

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The ESDIS Common Metadata Repository (CMR) recognizes the importance of documenting the spatial extent of the resource described by the metadata. Spatial Extent fields are represented by the Spatial Extent concept in the UMM-Common metadata model.

The table below shows the distribution of Spatial Extent fields represented in ISO 19115-2 for CMR metadata collections. This table provides a comparison of the fields utilized by NASA CMR metadata collections for describing spatial extent content.

We examined 2158 metadata records from 16 collections extracted from the CMR during October 2015. A value of 1 or more typically (although not necessarily) indicates that the element is included one or more times in each record in a collection. A value < 1.0 is typically the percentage of records in a collection that include the metadata element. Empty cells which indicate a value of 0 are shaded in pink. Pink cells indicate the element is completely missing from the collection.

The analysis below shows that Bounding Extent (east,north,south,west) elements are populated to some extent for all the collections evaluated. A few of the collections evaluated have a completeness values of < then one, which indicates not all records in the collection include this field. Overall CMR metadata collection are doing a very consistent job of documenting the bounding extent fields. The pink fields in the lower portion of the table highlight the use of GML point and polygon fields by NSICDVO and ORNL_DAAC.

Table 1: Distribution of Spatial Extent fields in CMR metadata collections

Number of Records		32	36	267	491	53	43	319	134	164	280	77	68	973	80	170	11	2158
Concept	Element Path	A SF	C D	G H	GSF CS4 PA	LA A DS	LANC EMOD IS	L A RC	LARC ASDC	LPDA AC E CS	NSI DC V0	NSID C E CS	O B PG	ORNL DAAC	PO DA DAC	SE DAC	USGS EROS	# Col lection
EastBoundLongitude	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd: eastBoundLongitude/gco:Decimal	1.00	.97	1.00	.80	1.00	1.00	.95	.96	1.00	1.19	.91	1.00	1.00	1.05	.96	1.00	16
NorthBoundLatitude	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd: northBoundLatitude/gco:Decimal	1.00	.97	1.00	.80	1.00	1.00	.95	.96	1.00	1.19	.91	1.00	1.00	1.05	.96	1.00	16
SouthBoundLatitude	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd: southBoundLatitude/gco:Decimal	1.00	.97	1.00	.80	1.00	1.00	.95	.96	1.00	1.19	.91	1.00	1.00	1.05	.96	1.00	16
WestBoundLongitude	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd: westBoundLongitude/gco:Decimal	1.00	.97	1.00	.80	1.00	1.00	.95	.96	1.00	1.19	.91	1.00	1.00	1.05	.96	1.00	16
Geographic Description	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd: geographicIdentifier/gmd:description	.31	.97		.07			.37	.18	3.18		2.32					3.09	8
Geographic Identifier	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd: geographicIdentifier/gmd:code		.97		.07			.15	.18	1.34		1.74					1.00	7
Point Identifier	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Point/@gml:id										.05			.18				2
Point Position	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Point/gml:pos										.05			.18				2
Point Dimension	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Point/gml:pos/@srsDimension										.05			.18				2
Point Reference System	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Point/gml:pos/@srsName										.05			.18				2
Geographic Identifier Codespace	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd: geographicIdentifier/gmd:codeSpace											1.29						1
Polygon Identifier	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Polygon/@gml:id										.02							1
Polygon Position	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Polygon/gml:exterior/gml:LinearRing/gml:posList										.02							1
Polygon Dimension	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Polygon/gml:exterior/gml:LinearRing/gml:posList/@srsDimension										.02							1
Polygon Reference System	gmd:identificationInfo/gmd:extent/gmd:geographicElement/gmd:polygon /gml:Polygon/gml:exterior/gml:LinearRing/gml:posList/@srsName										.02							1
Time Period Begin Position	gmd:identificationInfo/gmd:extent/gmd:temporalElement/gmd:extent/gml: TimePeriod/gml:beginPosition	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.97	1.00	1.00	1.00	1.00	.54	1.00	15
Temporal Element Identifier	gmd:identificationInfo/gmd:extent/gmd:temporalElement/@id	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.97	1.00	1.00	1.00	1.00	.99	1.00	15
Time Period Identifier	gmd:identificationInfo/gmd:extent/gmd:temporalElement/gmd:extent/gml: TimePeriod/@gml:id	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	.97	1.00	1.00	1.00	1.00	.54	1.00	15
Time Period End Position	gmd:identificationInfo/gmd:extent/gmd:temporalElement/gmd:extent/gml: TimePeriod/gml:endPosition		.93		.51	.02			1.00	.04	.84	.32	.59	1.00	.30			10
Time Period indeterminatePosition Attribute	gmd:identificationInfo/gmd:extent/gmd:temporalElement/gmd:extent/gml: TimePeriod/gml:endPosition/@indeterminatePosition	1.00				.98	1.00	1.00	.96		.68					.54	1.00	8
Begin Position Temporal Reference System	gmd:identificationInfo/gmd:extent/gmd:temporalElement/gmd:extent/gml: TimePeriod/gml:beginPosition/@frame					1.00	1.00	1.00	1.00		1.00					.54	1.00	7
End Position Temporal Reference System	gmd:identificationInfo/gmd:extent/gmd:temporalElement/gmd:extent/gml: TimePeriod/gml:endPosition/@frame					1.00	1.00	1.00	1.00		1.00					.54	1.00	7

[illegible]

Collection Metadata Records - March 2016

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