

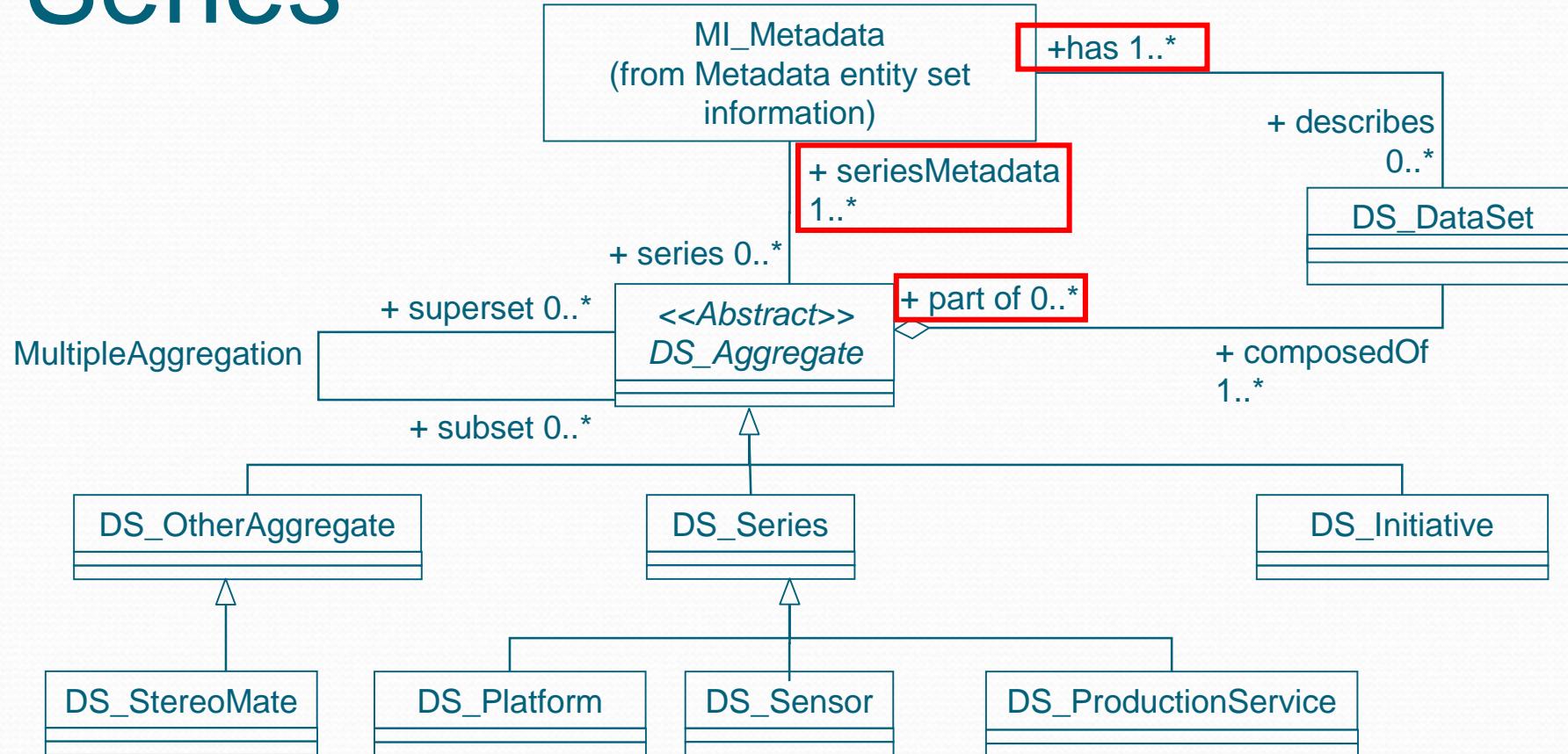
Series, Aggregation, Coverages: ISO 19115-2 in the Real World

Ted.Habermann@noaa.gov
OGC and Meteorology - 2009

Adopt, Adapt, only then Develop

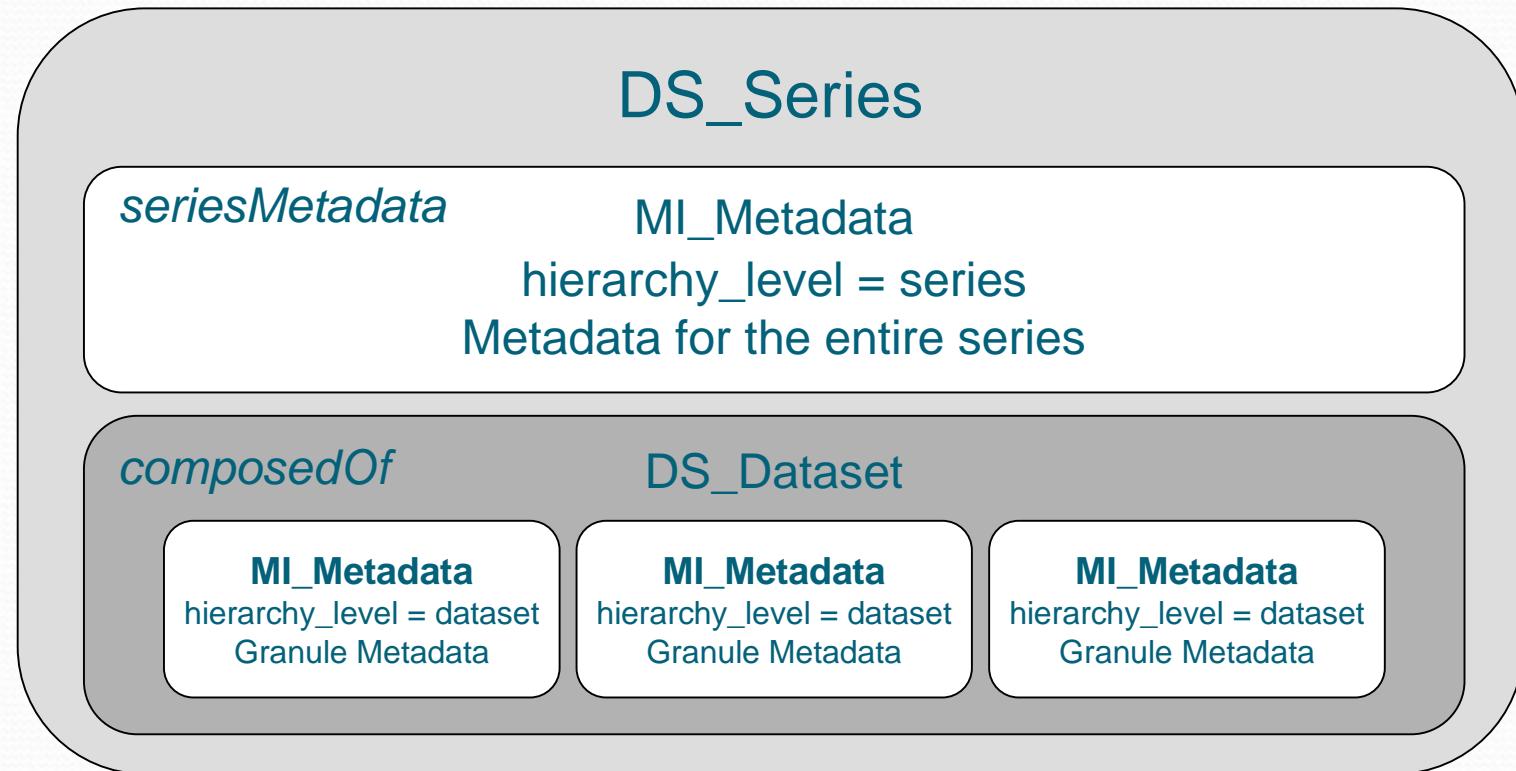
De Jure Standards Becoming De Facto
Standards

Series



A **DS_DataSet** is part of a **DS_Series** that has metadata
A **DS_Series** has seriesMetadata

Satellite Metadata Structure

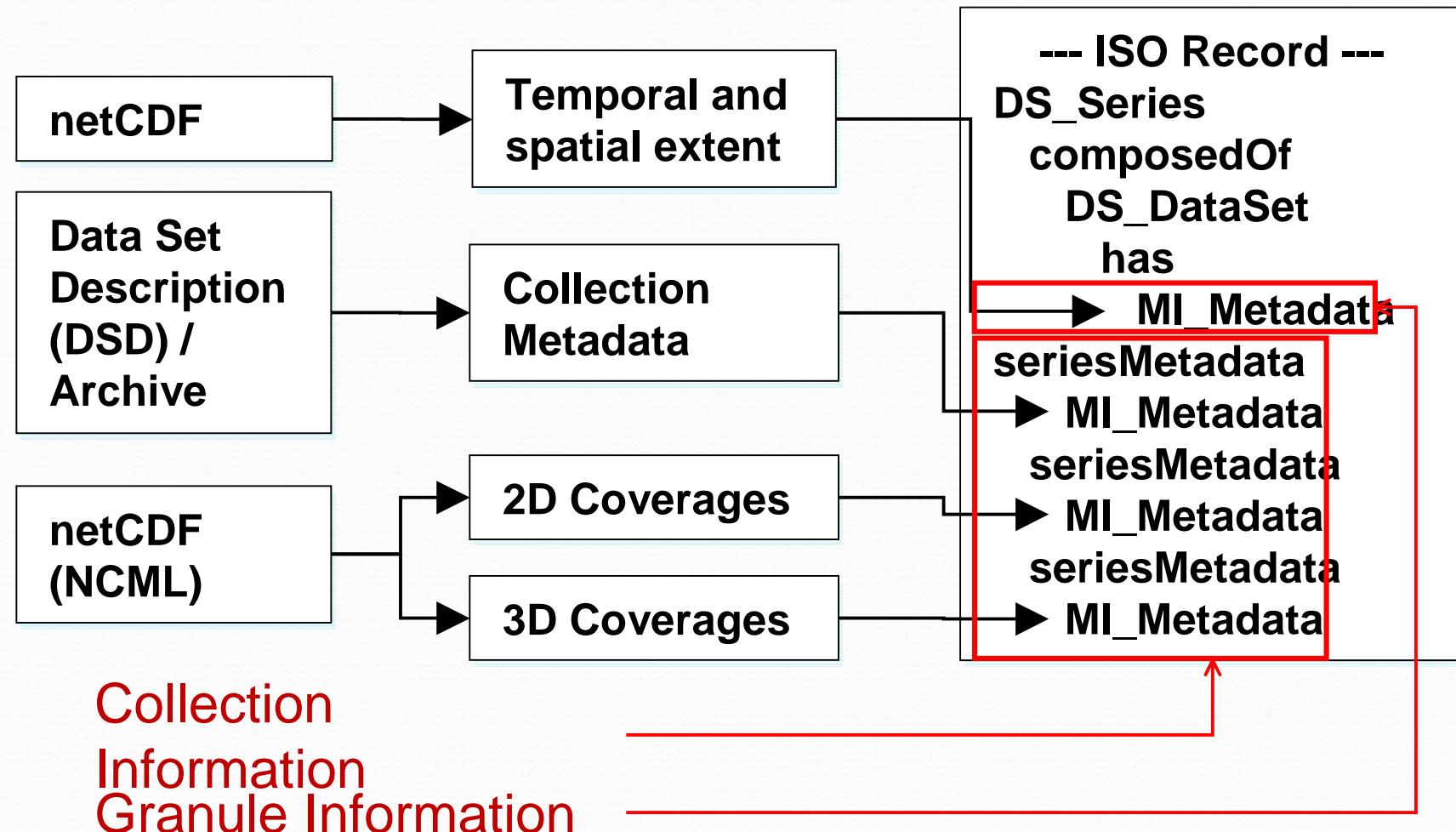


A DS_DataSet is part of a DS_Series

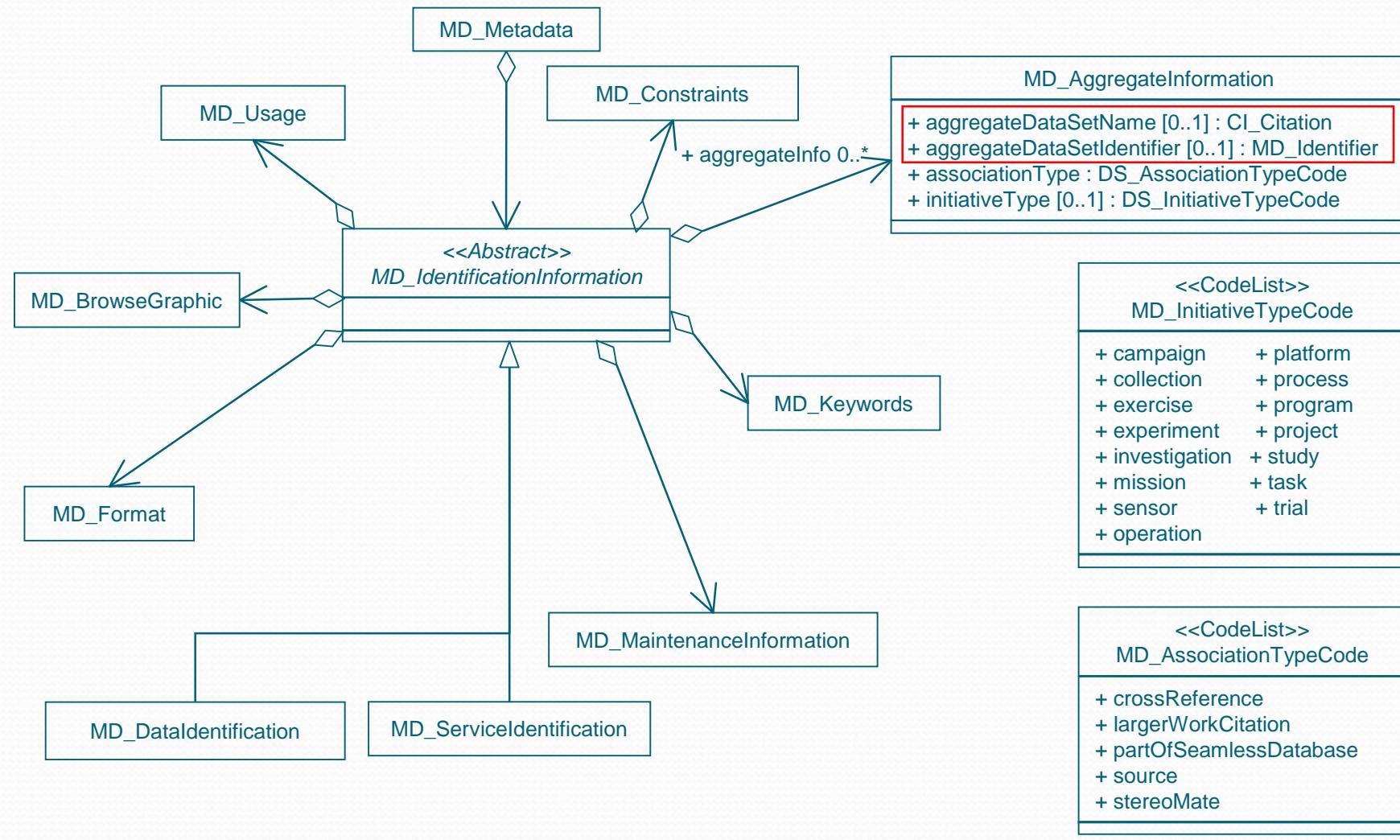
MI_Metadata describes a DS_Series

MI_Metadata describes DS_DataSet members

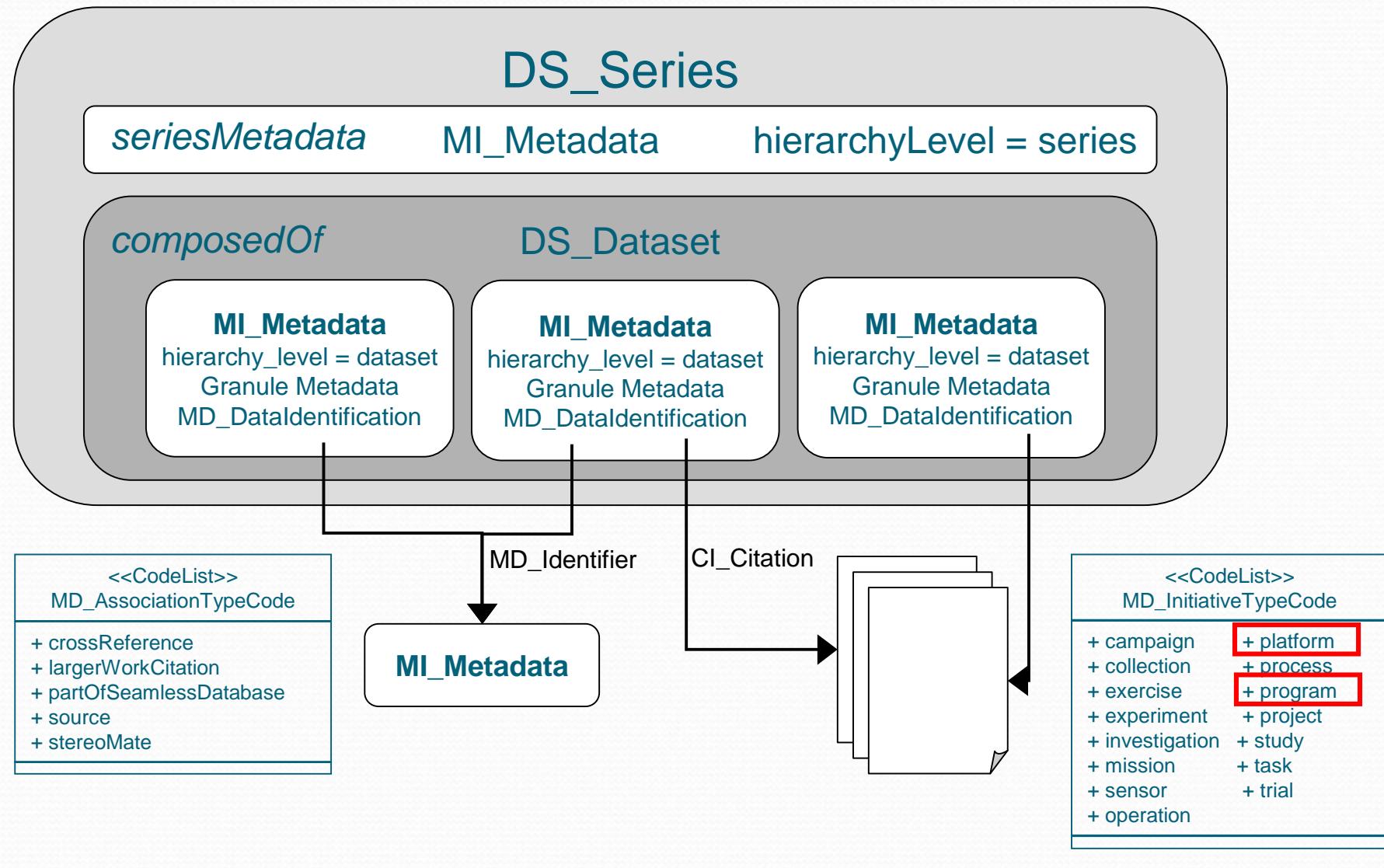
GHRSSST Collections and Granules



MD_AggregateInformation



Aggregation – External Groups



Aggregation in Excel

Microsoft Excel - wmo_list.xls

A43 F: 13131

Type a question for help

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	WMO	TELECOM	TELECOM SYSTEM	PTFM NAME	PTFM FAMILY	PTFM TYPE	CONTACT NAME	EMAIL	PROGRAM	ROLE	AGENCY	COUNTRY	ALLOC_DATE
2	1		VOS-001-VOS-BR	SHIP	VOS	Antonio Claudio Magalhaes Vieira	claudio@smm.mil.br	VOS-BR	Programme GTS Coordinator			6/1/20	
3	10004		XBT:10004-BSH	SOOPSHIP	XBT	Alexander Sy	sy@bsh.d400.de	SOO BSH	Program Manager	BSH	DEU	1/1/20	
4	10007		XBT:10007-BSH	SOOPSHIP	XBT	Alexander Sy	sy@bsh.d400.de	SOO BSH	Program Manager	BSH	DEU	1/1/20	
5	10044		XBT:10044-BSH	SOOPSHIP	XBT	Alexander Sy	sy@bsh.d400.de	SOO BSH	Program Manager	BSH	DEU	1/1/20	
6	11500	46297 ARGOS	ARGOS:46297	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Program Manager			10/30/20	
7	11500	46297 ARGOS	ARGOS:46297	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Programme GTS Coordinator			10/30/20	
8	11501	46299 ARGOS	ARGOS:46299	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Program Manager			10/30/20	
9	11501	46299 ARGOS	ARGOS:46299	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Programme GTS Coordinator			10/30/20	
10	11502	46300 ARGOS	ARGOS:46300	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Program Manager			10/30/20	
11	11502	46300 ARGOS	ARGOS:46300	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Programme GTS Coordinator			10/30/20	
12	11503	46302 ARGOS	ARGOS:46302	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Program Manager			10/30/20	
13	11503	46302 ARGOS	ARGOS:46302	DB	DB	James Duke	james.a.duke@navy.mil	NAVOCEANO-DB-2	Programme GTS Coordinator			10/30/20	
14	11903	63071 ARGOS	ARGOS:63071	DB	SVP3	Shaun Dolk	shaun.dolk@noaa.gov	AOML-SVP-1	Program Manager	NOAA/AOML	USA	9/2/20	
15	11903	63071 ARGOS	ARGOS:63071	DB	SVP3	Mayra Pazos	mayra.pazos@noaa.gov	AOML-SVP-1	Programme GTS Coordinator	NOAA/AOML	USA	9/2/20	
16	11927	63072 ARGOS	ARGOS:63072	DB	SVP3	Shaun Dolk	shaun.dolk@noaa.gov	AOML-SVP-1	Program Manager	NOAA/AOML	USA	8/28/20	
17	11927	63072 ARGOS	ARGOS:63072	DB	SVP3	Mayra Pazos	mayra.pazos@noaa.gov	AOML-SVP-1	Programme GTS Coordinator	NOAA/AOML	USA	8/28/20	
18	11931	63073 ARGOS	ARGOS:63073	DB	SVP3	Shaun Dolk	shaun.dolk@noaa.gov	AOML-SVP-1	Program Manager	NOAA/AOML	USA	8/28/20	
19	11931	63073 ARGOS	ARGOS:63073	DB	SVP3	Mayra Pazos	mayra.pazos@noaa.gov	AOML-SVP-1	Programme GTS Coordinator	NOAA/AOML	USA	8/28/20	
20	13001	20976 ARGOS	12N23W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Program Manager	DHN	BRA	10/24/20	
21	13001	20976 ARGOS	12N23W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Program Manager	DHN	BRA	12/24/20	
22	13001	20976 ARGOS	12N23W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Programme GTS Coordinator	DHN	BRA	10/24/20	
23	13001	20976 ARGOS	12N23W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Programme GTS Coordinator	DHN	BRA	12/24/20	
24	13001	20976 ARGOS	12N23W	MB	ATLAS	Paul Freitag	paul.freitag@noaa.gov	TAO PIRATA	Programme GTS Coordinator	NOAA/PMEL	USA	10/24/20	
25	13001	20976 ARGOS	12N23W	MB	ATLAS	Paul Freitag	paul.freitag@noaa.gov	TAO PIRATA	Programme GTS Coordinator	NOAA/PMEL	USA	12/24/20	
26	13002	11114 ARGOS	ARGOS:11114	MB	MB	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Program Manager	DHN	BRA	8/6/20	
27	13002	11114 ARGOS	ARGOS:11114	MB	MB	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Programme GTS Coordinator	DHN	BRA	8/6/20	
28	13002	11114 ARGOS	ARGOS:11114	MB	MB	Paul Freitag	paul.freitag@noaa.gov	TAO PIRATA	Programme GTS Coordinator	NOAA/PMEL	USA	8/6/20	
29	13008	790 ARGOS	15N38W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Program Manager	DHN	BRA	4/3/20	
30	13008	790 ARGOS	15N38W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Programme GTS Coordinator	DHN	BRA	4/3/20	
31	13008	790 ARGOS	15N38W	MB	ATLAS	Paul Freitag	paul.freitag@noaa.gov	TAO PIRATA	Programme GTS Coordinator	NOAA/PMEL	USA	4/3/20	
32	13009	4606 ARGOS	TAO08N38W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Program Manager	DHN	BRA	6/4/20	
33	13009	4606 ARGOS	TAO08N38W	MB	ATLAS	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Programme GTS Coordinator	DHN	BRA	6/4/20	
34	13009	4606 ARGOS	TAO08N38W	MB	ATLAS	Paul Freitag	paul.freitag@noaa.gov	TAO PIRATA	Programme GTS Coordinator	NOAA/PMEL	USA	6/4/20	
35	13010	2296 ARGOS	ARGOS:02296	MB	MB	Paul Freitag	paul.freitag@noaa.gov	TAO ATLAS	Program Manager	NOAA/PMEL	USA	8/16/20	
36	13010	28382 ARGOS	ARGOS:28382	MB	MB	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Program Manager	DHN	BRA	9/18/20	
37	13010	28382 ARGOS	ARGOS:28382	MB	MB	DBCP TAO PIRATA DHN	24@dhn.mar.mil.br	TAO PIRATA	Programme GTS Coordinator	DHN	BRA	9/18/20	
38	13010	28382 ARGOS	ARGOS:28382	MB	MB	Paul Freitag	paul.freitag@noaa.gov	TAO PIRATA	Programme GTS Coordinator	NOAA/PMEL	USA	9/18/20	
39	13010	2296 ARGOS	ARGOS:02296	MB	MB	Paul Freitag	paul.freitag@noaa.gov	TAO ATLAS	Programme GTS Coordinator	NOAA/PMEL	USA	8/16/20	
40	13130	PDE-CAN/INMARSAT	PDE:GRAN CANARIA	MB	WAVEBUOY	ENRIQUE ALVAREZ FANJUL	ENRIQUE@PUERTOS.ES	SPAIN MB (PDE)	Program Manager	PUERTOS DEL ESTE	ESP	1/1/20	
41	13130	PDE-CAN/INMARSAT	PDE:GRAN CANARIA	MB	WAVEBUOY	Maria Isabel Ruiz Gil de la Serna	maribel@puertos.es	SPAIN MB (PDE)	Programme GTS Coordinator			1/1/20	

Sheet2 X Sheet1 X wmo_list /

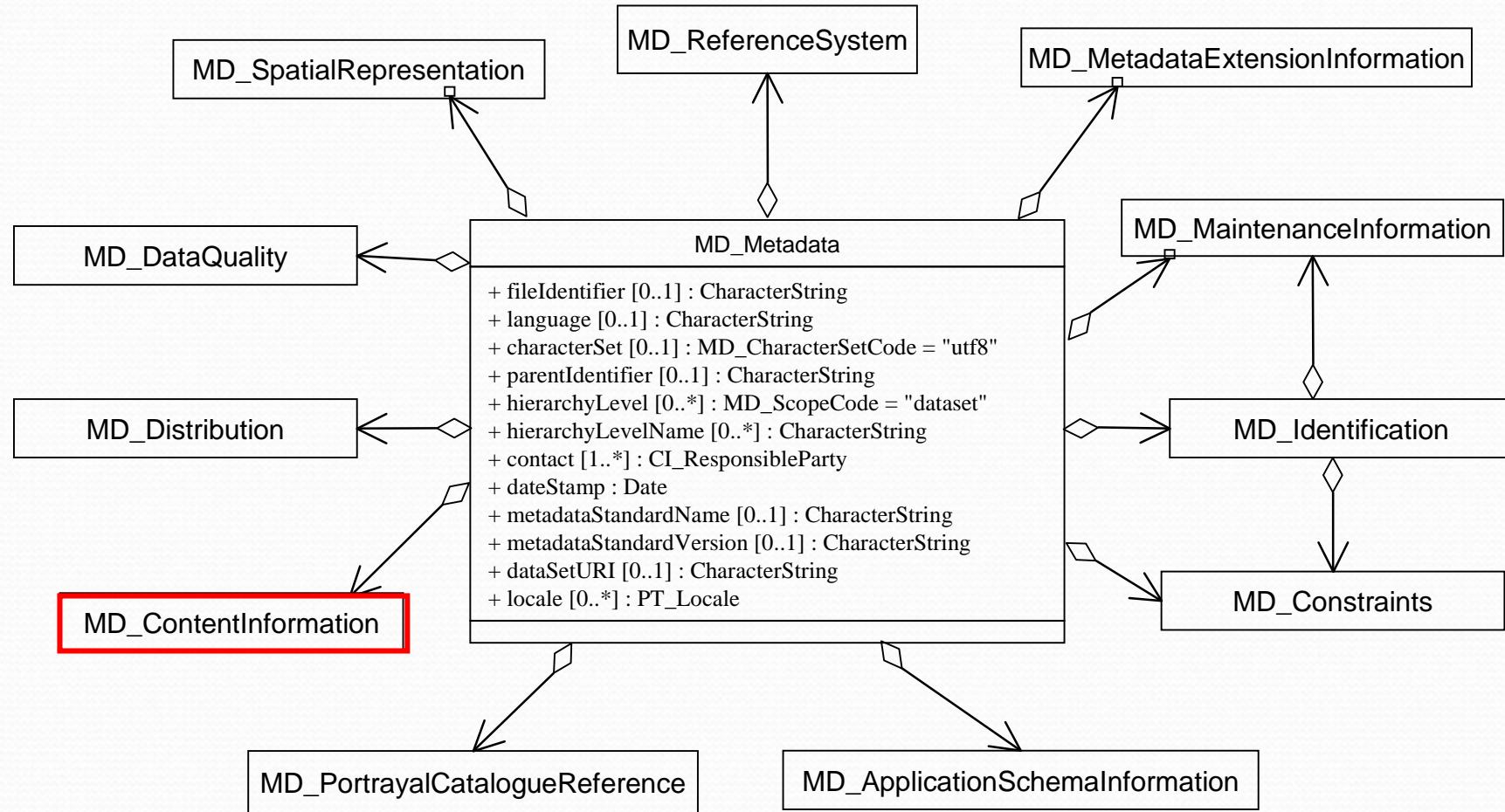
Ready

Aggregation in XML

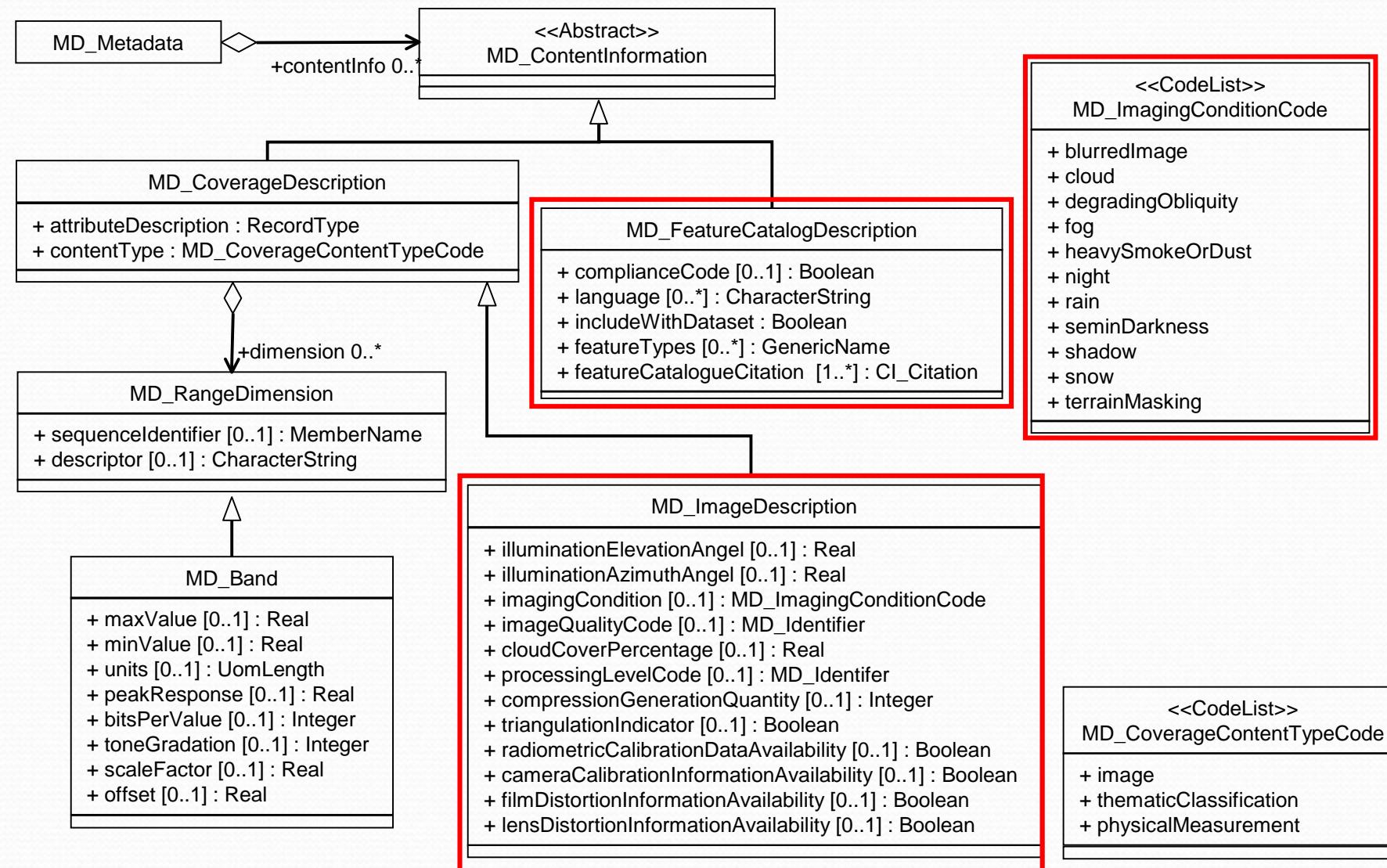
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3   xmlns:gts="http://www.isotc211.org/2005/gts" xmlns:gco="http://www.isotc211.org/2005/gco" xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:srv="http://www.isotc211.org/2005/srv"
4   xmlns:gmx="http://www.isotc211.org/2005/gmx" xmlns:gss="http://www.isotc211.org/2005/gss" xmlns:gsr="http://www.isotc211.org/2005/gsr" xmlns:gml="http://www.opengis.net/2003/01/gml"
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20   </gmd:citation>
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Complete record at http://www.ngdc.noaa.gov/idb/struts/results?eq_0=31007&t=102959&s=100&d=105

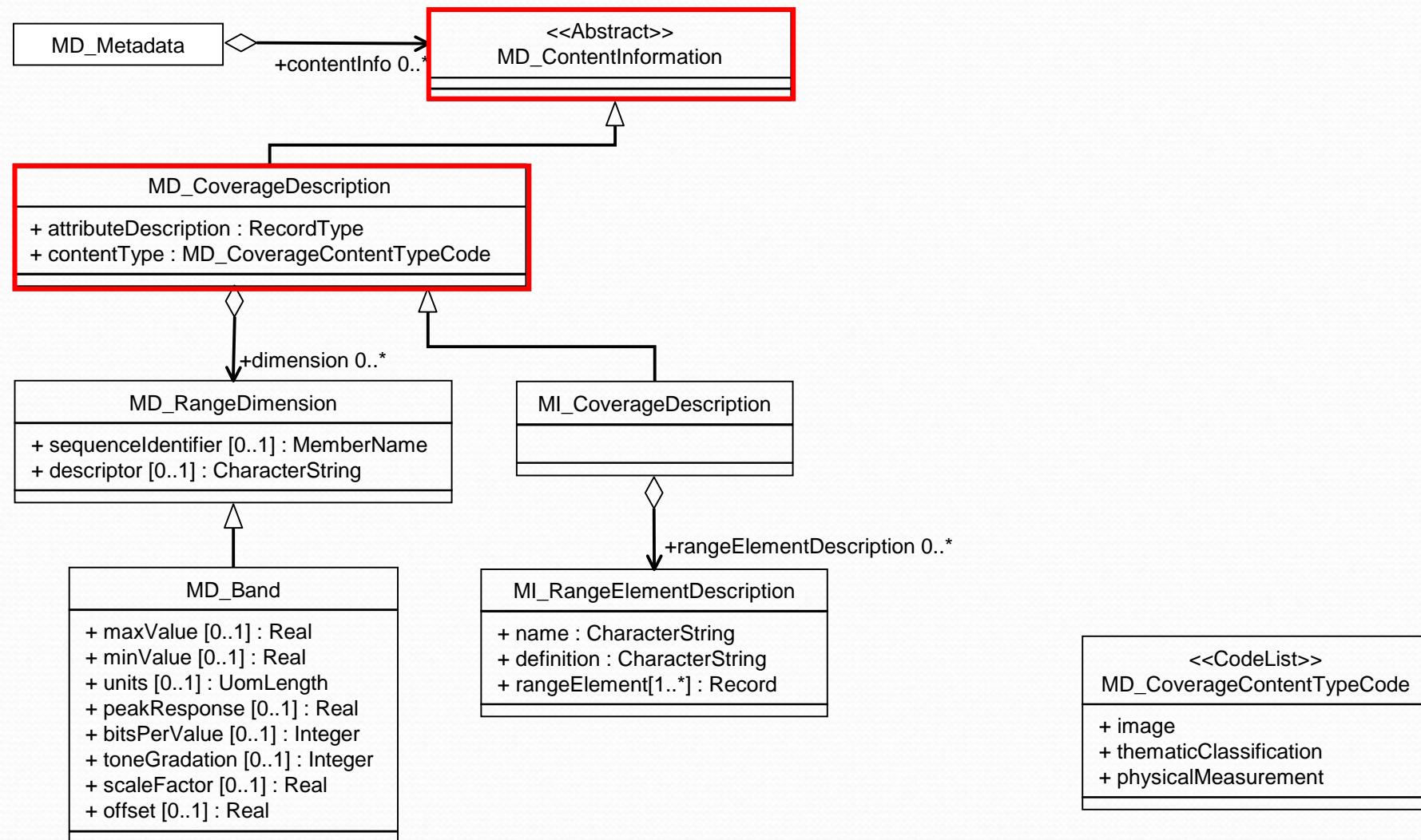
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MD_ContentInformation

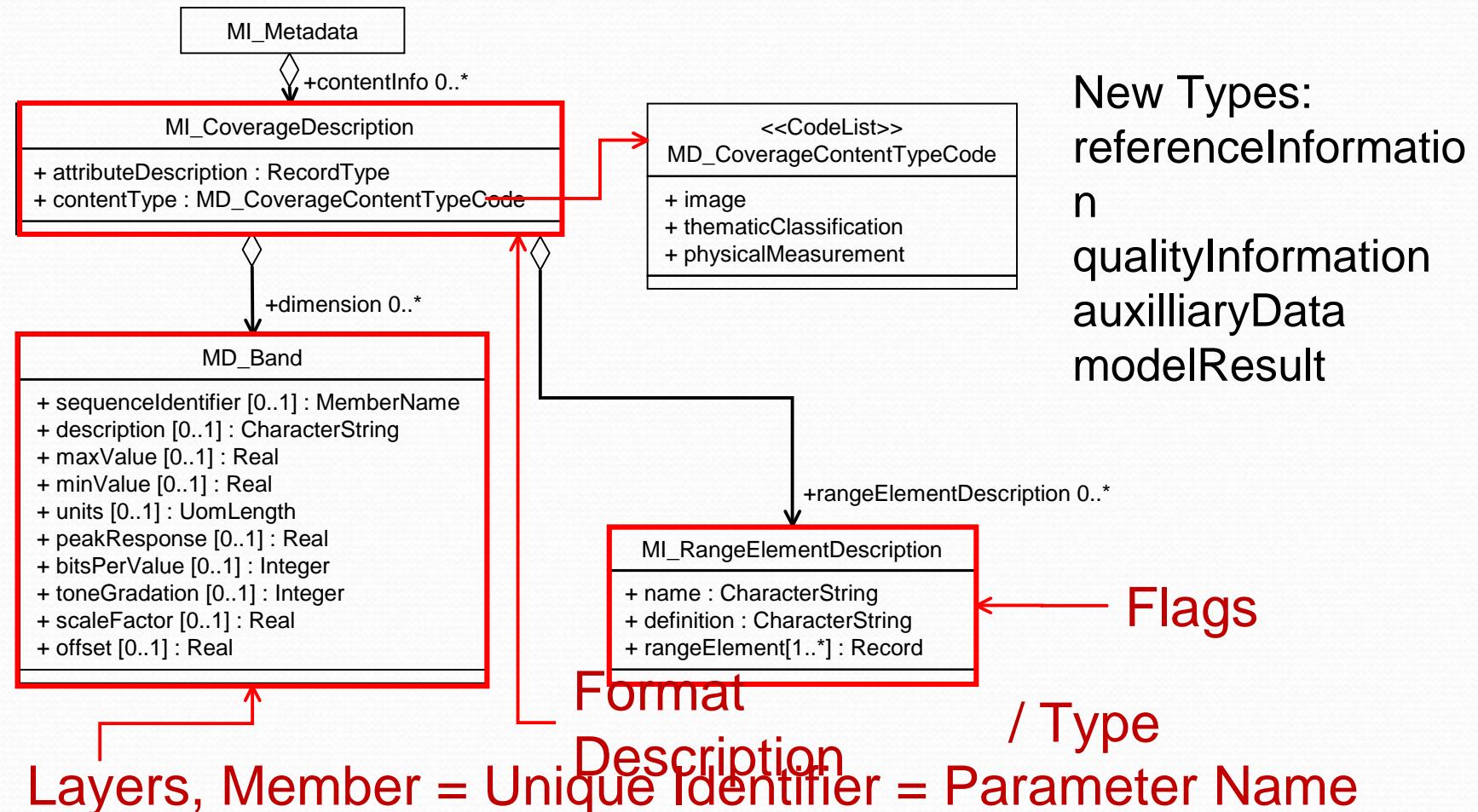


MD_ContentInformation-2



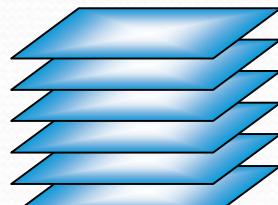
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S



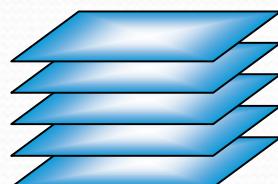
New Types:
referenceInformation
qualityInformation
auxilliaryData
modelResult

Multi-layered dataset (SST50)



Physical Measurements:

Analysis Temperature (sea_surface_temperature) contentInfo
Gradient X+, X-, Y+, Y-, Average 1
Ice Field

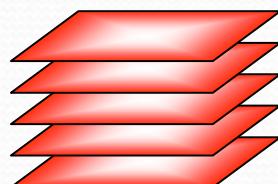


Auxilliary Data:

Physiographic Desc. (land_binary_mask) contentInfo 2
Spatial Covariance X+, X-, Y+, Y- contentInfo3

Quality Reports:

Lineage / Processing dataQuality
Processing Parameters 1 1
Processing Parameters 2 dataQuality
Mission History 2



Quality Information:

Age Of Most Recent Observation 3
Number of Observations 3
Class 1 Coverage 4
Reliability 6
dataQuality

Conclusion

Most metadata content is independent of the standards used to represent it because it is designed to answer common questions about scientific data.

We can learn quite a bit by understanding how to represent the same answers in several ways.

Questions or suggestions: ted.habermann@noaa.gov

