S-130PT6

2023-11-28 & 2023-11-29

Opening and Welcome

S130PT6-1

Approval of Agenda

S130PT6-2

https://iho.int/en/s-130pt6

Annex A S130PT6 Draft Agenda

28-29 November 2023 / Monaco (Hybrid)

DRAFT AGENDA v1.1

Agenda item	Title	Lead	Remarks
1. Opening and Administrative Arrangements			
S130PT6-1	Opening and Welcome	Chair	
2. Approval of Agenda			
S130PT6-2	Agenda	Chair	
S130PT6-2.1	Status of List of Actions and Decisions from S-130PT5	IHO Sec.	
3. Matters Arising from the PT and Others			
S130PT6-3.1	Review decisions and actions from HSSC15 related to the work of the PT	Chair	
S130PT6-3.2	Outcomes S-100WG8 related to the work of the PT	IHO Sec.	
4. Work Items			
S130PT6-4.1	Application Schema - Status update GI registry definitions for new terms	Chair	
S130PT6-4.2	Progression with Test datasets for S-130 Product Specification Edition 1.0.0	IHO Sec.	
S130PT6-4.3	Test datasets – lessons learned and scenarios - Scenario 1: Representation of contributing points and construction lines - Scenario 2: Representation of locationReference - Scenario 3: Format of numerical identifiers - Impact on Application Schema	Chair	
S130PT6-4.4	Product Specification Edition 1.0.0 - Feedback S-100 Chair	Chair	
S130PT6-4.5	Development S-130 Product Specification Edition 2.0.0 - Review of relevant documents and products	All	
S130PT6-4.6	Discuss proposed timeline and work plan for S-130PT to achieve Edition 2.0.0	All	
5. Any Other Business (AOB)			
S130PT6-5.1	Elections of Chair, Vice Chair and Secretary	IHO Sec.	
S130PT6-5.2	AOB	IHO Sec.	
S130PT6-5.3	Group Photo	Chair	
6. Date and Venue of Next Meeting			
7. Review Action Items			
S130PT6-7	Review Action items	IHO Sec.	
Close			

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Status of List of Actions and Decisions from S-130PT5

S130PT6-2.1

List of Actions and Decisions from S-130PT5

Action	Status
[Action 5/01] S-130PT are invited to update the list of members of the S-130PT and contact details.	Ongoing
[Action 5/02] S-130PT chair and IHO Sec. to contact the GI register manager and request his comments by the end of March 2023. S-130PT chair to circulate outcomes to S-130PT member for final approval.	Completed
[Action 5/03] J.Pritchard (IIC) to update the Feature Catalogue once the definition of the features is approved by the S-130PT.	Completed
[Action 5/04] J.Pritchard(IIC) to draft a metadata chapter for the S-130PS and submit it to S-130PT for approval by the end of March 2023.	Completed
[Action 5/05] Vice Chair to include the draft data quality chapter in the current version of S-130PS on SharePoint.	Completed

List of Actions and Decisions from S-130PT5

Action	Status
[Action 5/06] J.Pritchard(IIC) to update the S-130FC when the application schema is finalized.	Completed
[Action 5/07] S-130PT chair to report this issue to the next HSSC for consideration and decision.	Completed
[Action 5/08] S-130PT chair to report the updated work plan of S-130PT to the next HSSC for approval.	Completed
[Action 5/09] S-130PT chair to inform that the Date of S-130PT6 will be announced 3 months in advance as a virtual event.	Completed

List of Actions and Decisions from S-130PT5

- **[Decision 5/01] S-130PT** approved the agenda and associated timetable as presented.
- **[Decision 5/02]** S-130PT made the following decisions regarding the draft definitions of the features during the meeting:
  - Global Sea Area: S-130PT agreed to forward the definition to the GI register manager for his consultation on three different definitions proposed during the meeting.
- **[Decision 5/03]** S-130PT agreed to add a short paragraph to specify that "remotely sensed images" should only be used to refine the coastline.
- **[Decision 5/04]** S-130PT agreed on "No" at this stage for the items above, however it will be reviewed during the test and experiment of the S-130PS.
- **[Decision 5/05]** S-130PT agreed to move forward with numerical identifiers for Edition 1.0.0 of the S-130PS, however it should move to MRN if there is no compelling reason not to.
- **[Decision 5/06]** S-130PT endorsed the draft S-130PS as presented at the meeting and recognized that there were some discussion items in the draft S-130PS as below.
- **[Decision 5/07]** S-130PT endorsed the draft data quality chapter of S-130PS.
- **[Decision 5/08]** S-130PT agreed to report to the next HSSC for their consideration and decision on the producer.
- **[Decision 5/09]** S-130PT agreed the revised WP of S-130PT. The end date of Task B1 and B2 was changed from 2023 to 2023/2024. The dates for Task B3 were updated to 2023/2024 as start date and 2025 as end date.
- **[Decision 5/10]** S-130PT confirmed the purpose of S-130PS as 'non-navigational'.
- **[Decision 5/11]** S-130PT confirmed that an S-130 portrayal catalogue is not requested in general. However, a simple portrayal catalogue is useful for visualizing S-130 test data.
- **[Decision 5/12]** S-130PT agreed to utilize SharePoint as an editing tool for S-130PS.

Review decisions and actions from HSSC related to the work of the PT

S130PT6-3.1

Assembly PRO 1.6

- https://iho.int/uploads/user/Services%20and%20Standards/HSSC/HSSC15/HSSC15_2023_04.1A_EN_DECISIONS_3rd_SESSION_OF_ASSEMBLY_Draft.pdf

11	PRO 1.6: The Assembly:
	a) endorsed the Secretary-General`s recommendation to postpone the consideration of the necessity of the subsequent development of basic guidelines for the allocation and display of attributes of sea areas to be applied to Geographic Information Systems after the S-130 Product Specification and the implementation as authoritative S-130 dataset will be finalized.
	b) endorsed the Secretary-General`s recommendation to postpone the consideration of subsequent amendments to the relevant IHO Resolutions, for endorsement by the Council, if appropriate, after the S-130 Product Specification and the implementation as authoritative S-130 dataset will be finalized.

Reports by HSSC Working Groups

- S-100 Edition 5.0.0 → S-100 Edition 5.**2**.0 (S-100WG8?)

Reports by HSSC Working Groups

- https://iho.int/uploads/user/Services%20and%20Standards/HSSC/HSSC15/LIST%20OF%20DECISIONS%20AND%20ACTIONS%20FROM%20HSSC15_19June2023_v1.1.pdf

5.10	Polygonal Demarcation of Global Sea Areas (S-130 PT)				
5.10	S-130 PT	HSSC15/74	HSSC noted the progress made by the Project Team and approved Ed. 1.0.0 of S-130 for initial implementation, testing and evaluation (and comprehensive review by IHO MS).		Decision

Reports by HSSC Working Groups

- https://iho.int/uploads/user/Services%20and%20Standards/HSSC/HSSC15/LIST%2
  0OF%20DECISIONS%20AND%20ACTIONS%20FROM%20HSSC15_19June2023_v
  1.1.pdf

AGENDA ITEM	SUBJECT	ACTION No.	ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 June 2023)
5.10	S-130 Dataset	HSSC15/75	**HSSC** confirmed the importance of producing an authoritative S-130 IHO-approved dataset. **HSSC Chair** to include these recommendations in his report to C-7.	C-7 (17 July)	Decision

Outcomes S-100WG8 related to the work of the PT

S130PT6-3.2

Application Schema
Status update GI registry definitions for new terms

S130PT6-4.1

GI registry definition proposals

Concept	Feature data type	Proposed definition(s)	Note
GlobalSeaArea	FeatureType	(a) An area demarcating the limits of global seas and oceans (b) An area describing the extents of global seas and oceans	final choice to be decided
locationReference	ComplexAttribute Type	Textual information to describe a geographic location	
numericalIdentifier	SimpleAttribute Type	An identifier referencing an object or feature that is external to the dataset, expressed in Uniform Resource Name (URN) format.	definition featureIdentifier reused
version	SimpleAttribute Type	Identification of a specific form or variation of a feature instance	
textLat	SimpleAttribute Type	Textual description of latitude information	
textLon	SimpleAttribute Type	Textual description of longitude information	

Procedure

- S-130PT needs to assign a representative to the Concept Register and Data Dictionary Register.
  - The nominated representative can submit an application to the Registry.
  - Existing representatives from other groups can also fulfill this role for the S-130PT
    - To be discussed: is this the case here?
- S-130PT could consider assigning a member to be the PT representative on the Domain Control Body (DCB, responsible for adjudicating proposals).
  - To be discussed: is this relevant?

Progression with Test datasets for S-130 Product Specification Edition 1.0.0

S130PT6-4.2

Test datasets sites

- Southern Ocean as defined by new IHO Resolution 2/2023 (https://iho.int/uploads/user/pubs/misc/M3-E-2023%20-%20July.pdf)
  - IHO, as Producer Code for the general limits (Antarctica coastline as Southern limit, and 60°S as Northern limit);
  - AU, as Producer Code, for the general limits (Antarctica coastline as Southern limit, and 60°S as Northern limit in general but taking into account the specific Northern limit stated by Australia in the Appendix of the IHO Resolution 2/2023).
- Baltic Sea, with geometry of the limits delivered under consent with the Baltic Sea Hydrographic Commission
  - IHO, as Producer Code

Test datasets – lessons learned and scenarios

S130PT6-4.3

Scenario 0: original

class Domain overview

<<FeatureType>>
GlobalSeaArea

0..* consistsOf — Aggregation

<<SimpleAttributeType>>
+ maximumDisplayScale: int
+ minimumDisplayScale: int [0..1]
+ numericalIdentifier: int
+ version: CharacterString [0..1]

<<ComplexAttributeType>>
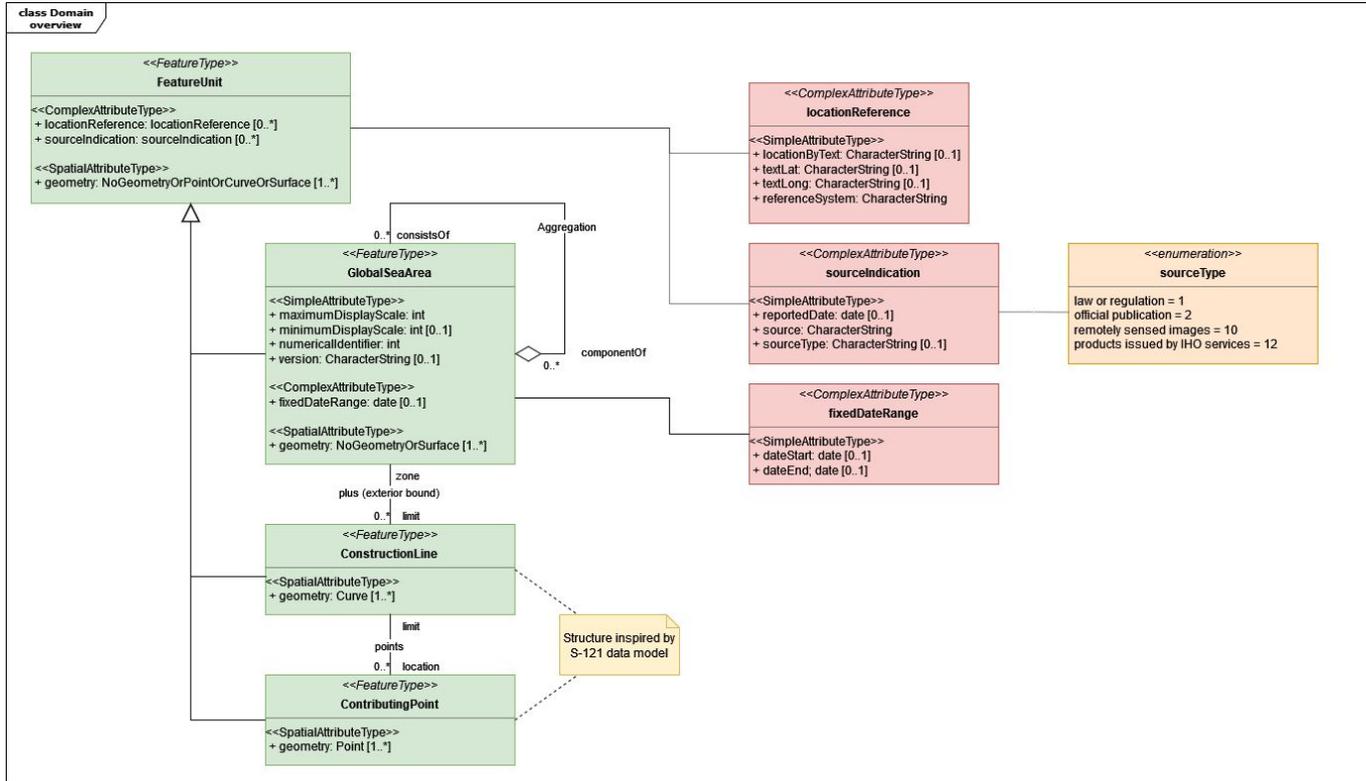+ fixedDateRange: date [0..1]
+ sourceIndication: sourceIndication [0..*]

<<SpatialAttributeType>>
+ geometry: NoGeometryOrPointOrCurveOrSurface [1..*]

componentOf
0..*

<<ComplexAttributeType>>
fixedDateRange

<<SimpleAttributeType>>
+ dateStart: date [0..1]
+ dateEnd: date [0..1]

<<ComplexAttributeType>>
sourceIndication

<<SimpleAttributeType>>
+ reportedDate: date [0..1]
+ source: CharacterString
+ sourceType: CharacterString [0..1]

<<enumeration>>
sourceType

law or regulation = 1
official publication = 2
remotely sensed images = 10
products issued by IHO services = 12

informationProvidedFor
1..*

AdditionalInformation   providesInformation
0..*

<<InformationType>>
AdditionalSpatialInformation

<<ComplexAttributeType>>
+ locationReference: locationReference [1..*]

<<ComplexAttributeType>>
locationReference

<<SimpleAttributeType>>
+ locationByText: CharacterString [0..1]
+ textLat: CharacterString [0..1]
+ textLong: CharacterString [0..1]
+ referenceSystem: CharacterString
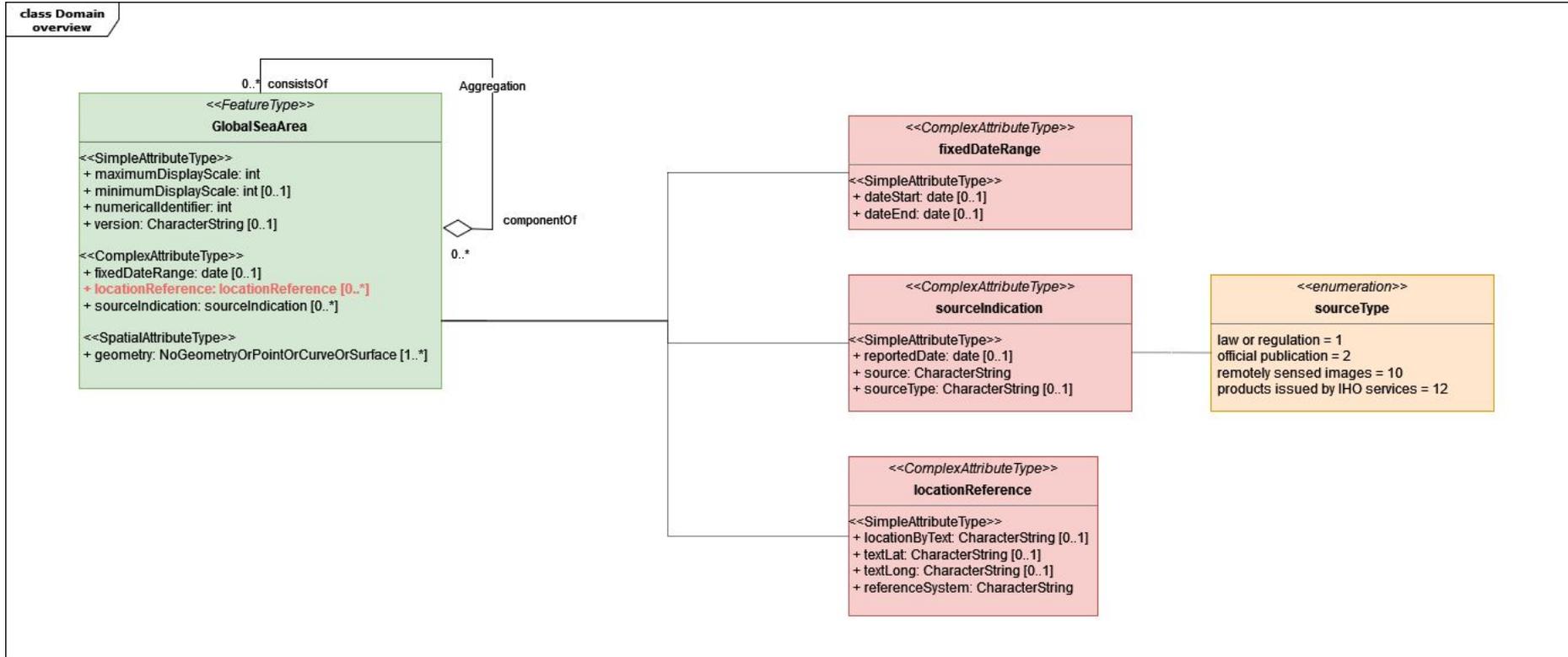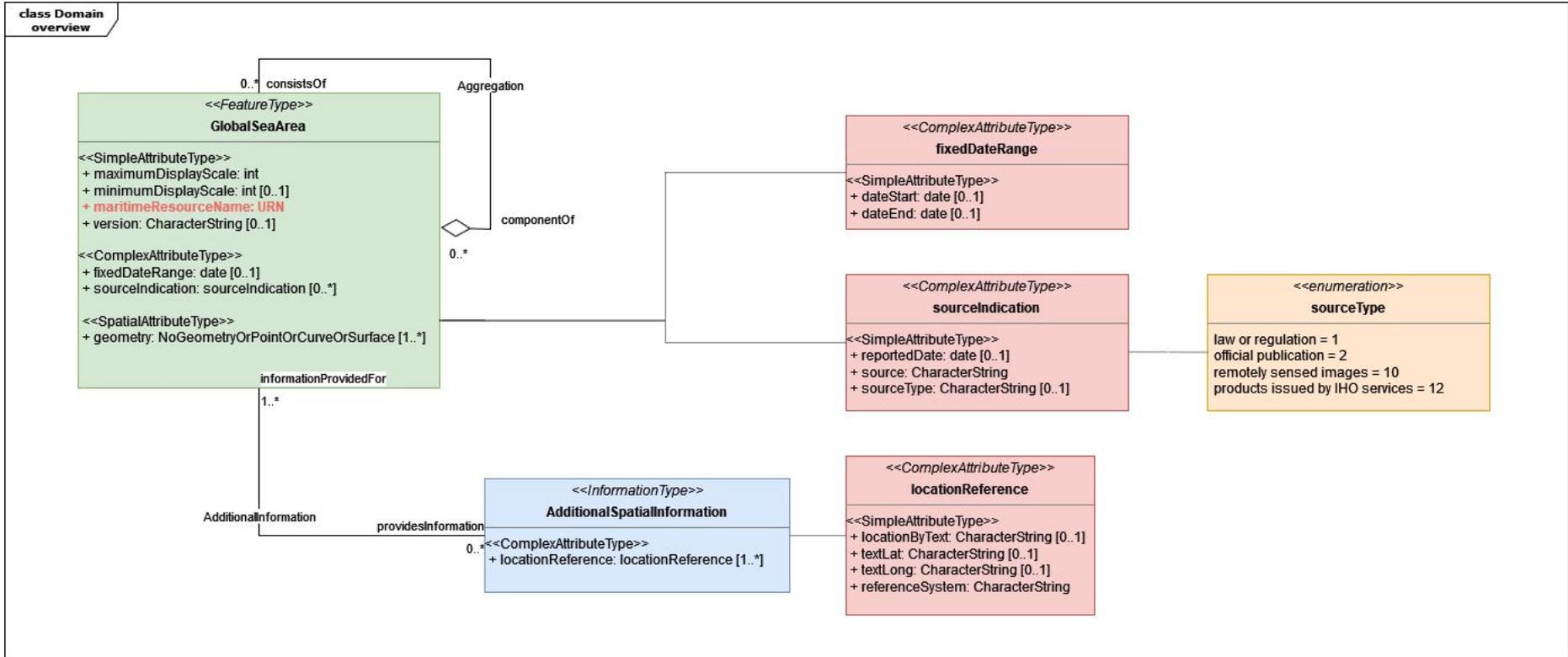
Scenario 1: contributing points and construction lines

Scenario 2: locationReference

Scenario 3: numerical identifiers

class Domain overview

GlobalSeaArea <<FeatureType>>

<<SimpleAttributeType>>
+ maximumDisplayScale: int
+ minimumDisplayScale: int [0..1]
+ maritimeResourceName: URN
+ version: CharacterString [0..1]

<<ComplexAttributeType>>
+ fixedDateRange: date [0..1]
+ sourceIndication: sourceIndication [0..*]

<<SpatialAttributeType>>
+ geometry: NoGeometryOrPointOrCurveOrSurface [1..*]

0..* consistsOf

Aggregation

componentOf

0..*

informationProvidedFor

1..*

fixedDateRange <<ComplexAttributeType>>

<<SimpleAttributeType>>
+ dateStart: date [0..1]
+ dateEnd: date [0..1]

sourceIndication <<ComplexAttributeType>>

<<SimpleAttributeType>>
+ reportedDate: date [0..1]
+ source: CharacterString
+ sourceType: CharacterString [0..1]

sourceType <<enumeration>>

law or regulation = 1
official publication = 2
remotely sensed images = 10
products issued by IHO services = 12

locationReference <<ComplexAttributeType>>

<<SimpleAttributeType>>
+ locationByText: CharacterString [0..1]
+ textLat: CharacterString [0..1]
+ textLong: CharacterString [0..1]
+ referenceSystem: CharacterString

AdditionalInformation

providesInformation

AdditionalSpatialInformation <<InformationType>>

<<ComplexAttributeType>>
+ locationReference: locationReference [1..*]

0..*

General remarks

S130PT6-4.3

Association names and roles

- Association names and roles are not very informative, potentially rename?
  - componentOf <> consistsOf → partOf <> partition,...
  - informationProvidedFor <> providesInformation → …

2.5.5.2 Generic association for uncategorized additional information
Unless other associations are specified, information types are associated to the relevant features using the association name **AdditionalInformation** and the role names **providesInformation** and **informationProvidedFor**.

Association names and roles

Concept	Feature data type	Proposed definition(s)	Note
AdditionalInformation	Association name	A feature association for the binding between at least one instance of a geo feature and an instance of an information type.	based on S-127FC
providesInformation	Association role	A pointer to an object that provides more information about the referencing feature or information type.	based on S-127FC
informationProvidedFor	Association role	A pointer to a specific feature(s) for which further information is required.	based on S-127FC
Aggregation	Association name	A parent-child relationship where the child can exist independently of the parent.	
consistsOf	Association role	A pointer to a part in a whole-part relationship.	based on S-123FC
componentOf	Association role	A pointer to the aggregate in a whole-part relationship.	based on S-123FC

sourceIndication

- Geometry and locationReference for a point, line, polygon could have separate sources so this could cause confusion
  - e.g. locationReference is a description ("Antarctica coastline as Southern limit") from source A, but the geometry for that coastline comes from a shoreline dataset B
  - Is it enough to have multiple sources linking to the overall object or do we want to make this more clear (see for example 1301810SAMPLESO01a)?
- Include separate attribute for source URL? *(previously discussed)*

```xml
<S130:sourceIndication>
  <S130:reportedDate>2023-07-01</S130:reportedDate>
  <S130:source>Resolutions of the International Hydrographic Organization (https://iho.int/uploads/user/pubs/misc/M3-E-2023%20-%20July.pdf).</S130:source>
  <S130:sourceType code="2">official publication</S130:sourceType>
</S130:sourceIndication>
<S130:sourceIndication>
  <S130:reportedDate>2023-10-18</S130:reportedDate>
  <S130:source>Flanders Marine Institute (2021). Global Oceans and Seas, version 1. Available online at https://www.marineregions.org/. https://doi.org/10.14284/542.</S130:source>
  <S130:sourceType code="2">official publication</S130:sourceType>
</S130:sourceIndication>
```

sourceIndication

- sourceIndication information is duplicated often in the test datasets (one source used by many features), potentially 'normalize' it similar to AdditionalSpatialInformation in v1.0.0?
    - To consider: duplication of information versus keeping information close to feature
        - same can be said for locationReference (see scenario 2)!

→ scenario 4?

Scenario 4: sourceIndication?
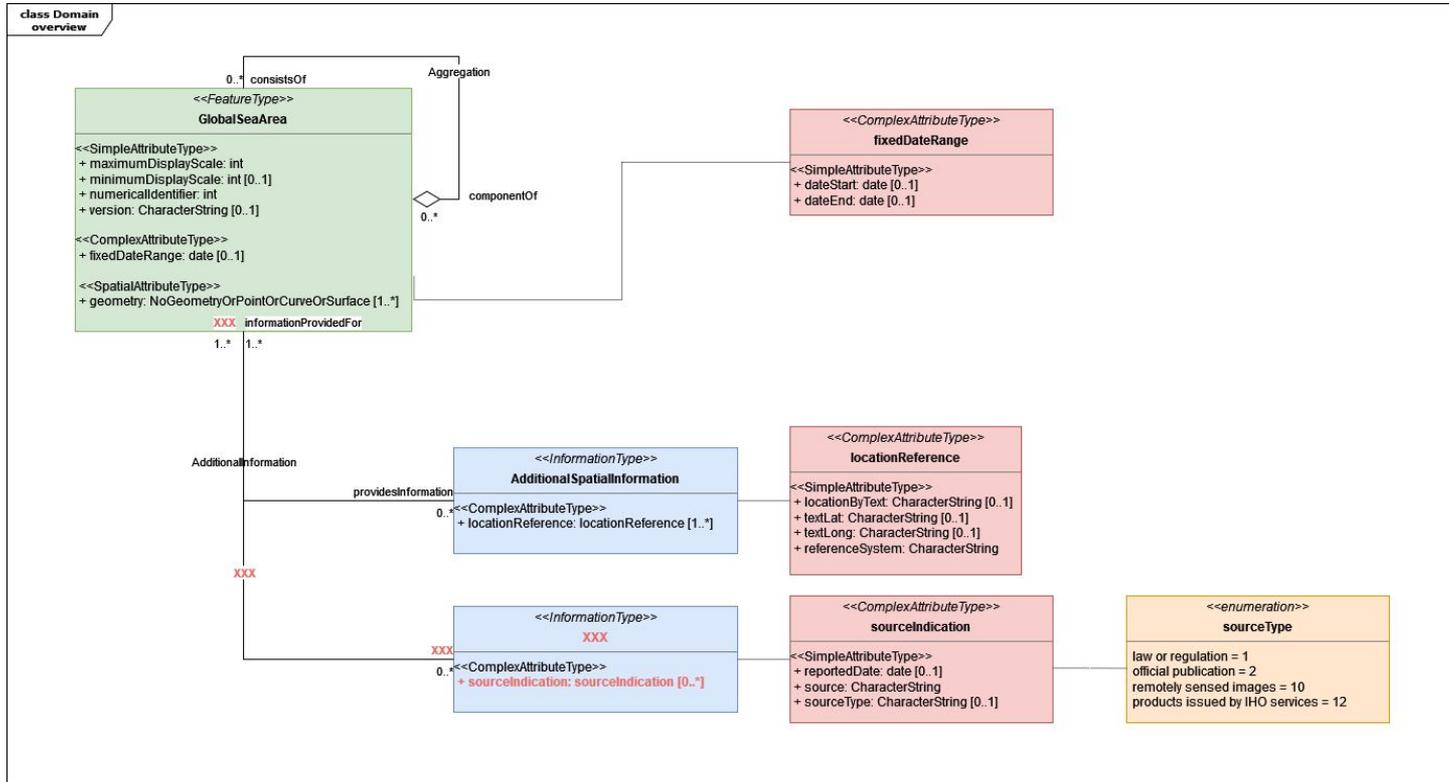
sourceType

- Very little information comes from this attribute and it is not helpful to filter on it, is it necessary or would a lineType be more informative?
  - e.g. BSHC suggestion to put 'Decision by the Baltic Sea Hydrographic Commission' as source type

geometry

- If feature name and coordinates are provided, which gets priority? *(in test cases, preference for coordinates)*

South East C.

43° 39'S
146°49'E
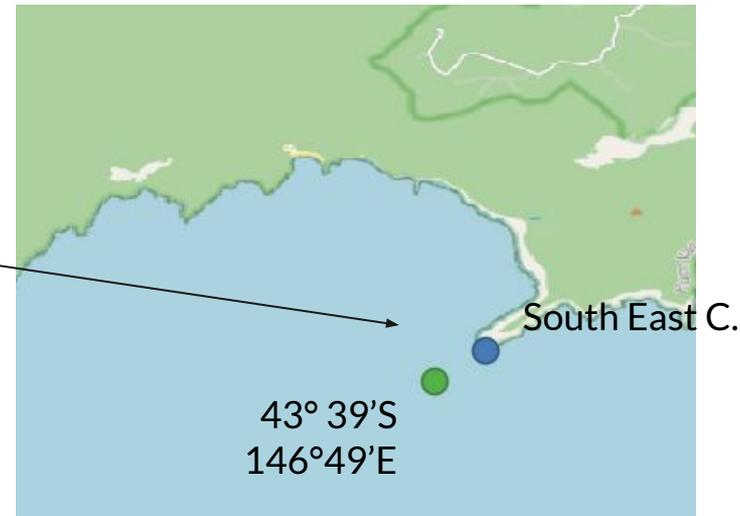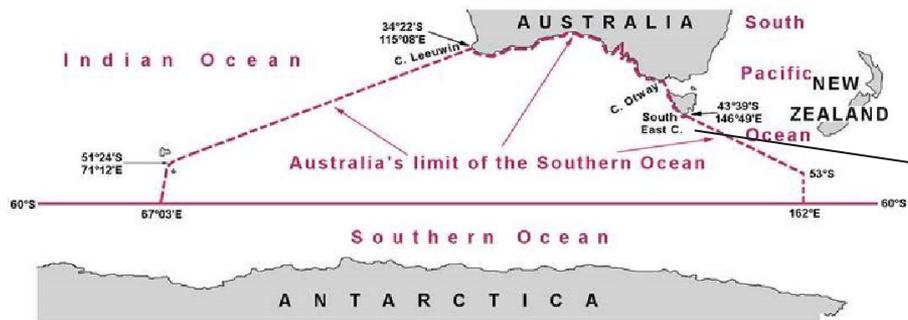
geometry

- Which authoritative source/gazetteer should be used for the coordinates of named features?

- Line types to connect point coordinates? *(in test cases, geodesic lines were used)*
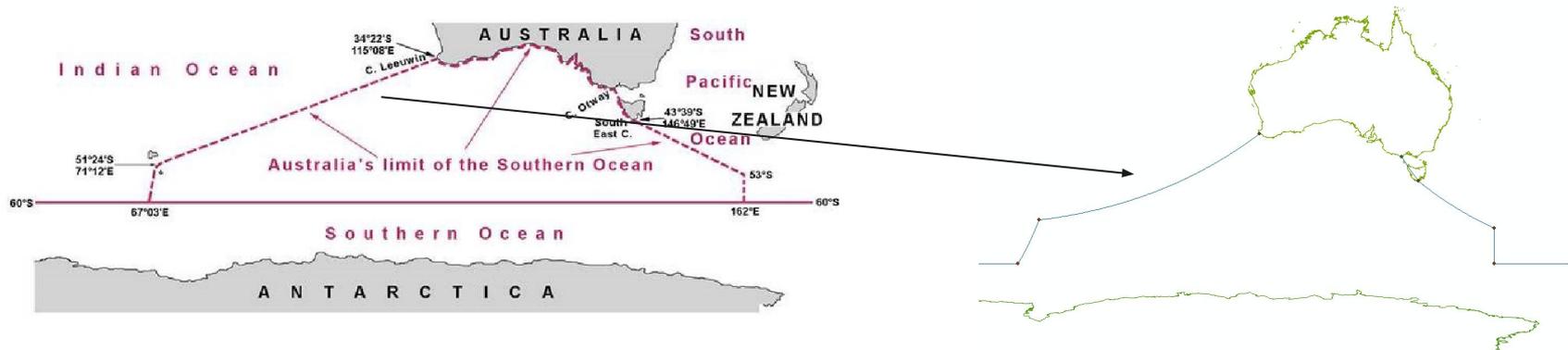
geometry

- Do we want to include *all* lines (also intermediate construction lines) and potentially also include all attributes for every line, or only lines from a clear source?

Feature Catalogues

- Permitted primitives
  - In v1 of the FC as submitted to the Registry only 'surface' is allowed under <S100FC:permittedPrimitives> </S100FC:permittedPrimitives>. However, the first version of the application schema allows for noGeometry or surface or curve or point.
- Aliases
  - For scenario b, aliases from S-121 were used where applicable + GSA as an alias for Global Sea Area.
- Definitions
  - Where a definition is not yet available in the Registry or other information is missing, characterized as 'TBD'.
- Multiplicity AdditionalInformation

Scenario 1: Representation of contributing points and construction lines

S130PT6-4.3

Discussion

- Version, display scales and date range as attribute of FeatureUnit or GlobalSeaArea?
  - Delivered by BSHC for Baltic Sea case but not integrated for construction lines and contributing points

Scenario 2: Representation of locationReference

S130PT6-4.3

Discussion

- In scenario b, locationReference is also provided inline leading to 1301810SAMPLESO01b = 1301810SAMPLESO01c

- To consider: duplication of information versus keeping information close to feature
  - same can be said for sourceIndication (see general remarks)!

Scenario 3: Form of numerical identifiers

maritimeResourceName

- Test dataset format:

urn:mrn:iho:s130:YYYYXXXX

YYYY: centroid latitude rounded to 1 decimal (without indication E/W) in WGS84

XXXX: centroid longitude rounded to 1 decimal (without indication N/S) in WGS84

e.g.

urn:mrn:iho:s130:06810270

maritimeResourceName

- Potential improvements (to be discussed)

  - Indication E/W and N/S (dropping decimals), e.g.

    urn:mrn:iho:s130:068S027W

  - If representation of points and curves stays same as in proposed version 1.0.0, replacing leading zero with geometry type (S for Surface, C for Curve, P for Point or similar), e.g.

    urn:mrn:iho:s130:S6810270

    urn:mrn:iho:s130:C7450137

Impact on Application Schema

S130PT6-4.3

S-121

The reference system for the spatial attribute type is consistent over a whole dataset or database and is defined in the metadata.

«FeatureType»
S121 Feature::FeatureUnit
S121_VersionedObject

+ fuID: Oid
+ label: CharacterString [0..1]
+ name: CharacterString [0..1]
+ context: CharacterString [0..1]
+ releasabilityType: releasabilityTypeList [0..1]

::S121_VersionedObject
+ startLifespan: DateTime
+ endLifespan: DateTime [0..1]
+ collection: CharacterString [0..1]

+spatialCharacteristics

«FeatureAttribute,abstract»
S121 Feature::S121_SpatialAttributeType
S121_VersionedObject

+ saID: Oid

«S100_GF_SpatialAttributeType»
+ geometry: GM_Object
+ scaleMinimum: PositiveInteger [0..1]
+ scaleMaximum: PositiveInteger [0..1]

+sa 0..*

«FeatureAttribute,abstract»
S121 Feature::S121_AdditionalSpatialInformationType
S121_VersionedObject

+ siID: Oid
+ locationByText: CharacterString [0..1]
+ referenceSystem: S100_IO_IdentifiedObject [0..1]

::S121_VersionedObject
+ startLifespan: DateTime
+ endLifespan: DateTime [0..1]
+ collection: CharacterString [0..1]

+additionalSpatialCharacteristics

«invariant»
{multiplicity constraint - Only one Spatial Attribute Type version may be associated with one FeatureUnit instance at one time.}
{type constraint - All Spatial Attribute Types associated with a FeatureUnit shall be of the same geometric type Point, Curve or surface. }

{There is a 1:1 correspondence between instances of the S-121_SpatialAttributeType and the corresponding instances of the S-121_AdditionalSpatialInformationType carrying additional information.}

+fu 0..*

fuSource

saSource

+source 0..*   +source 0..*

tsSource

+ts 0..*

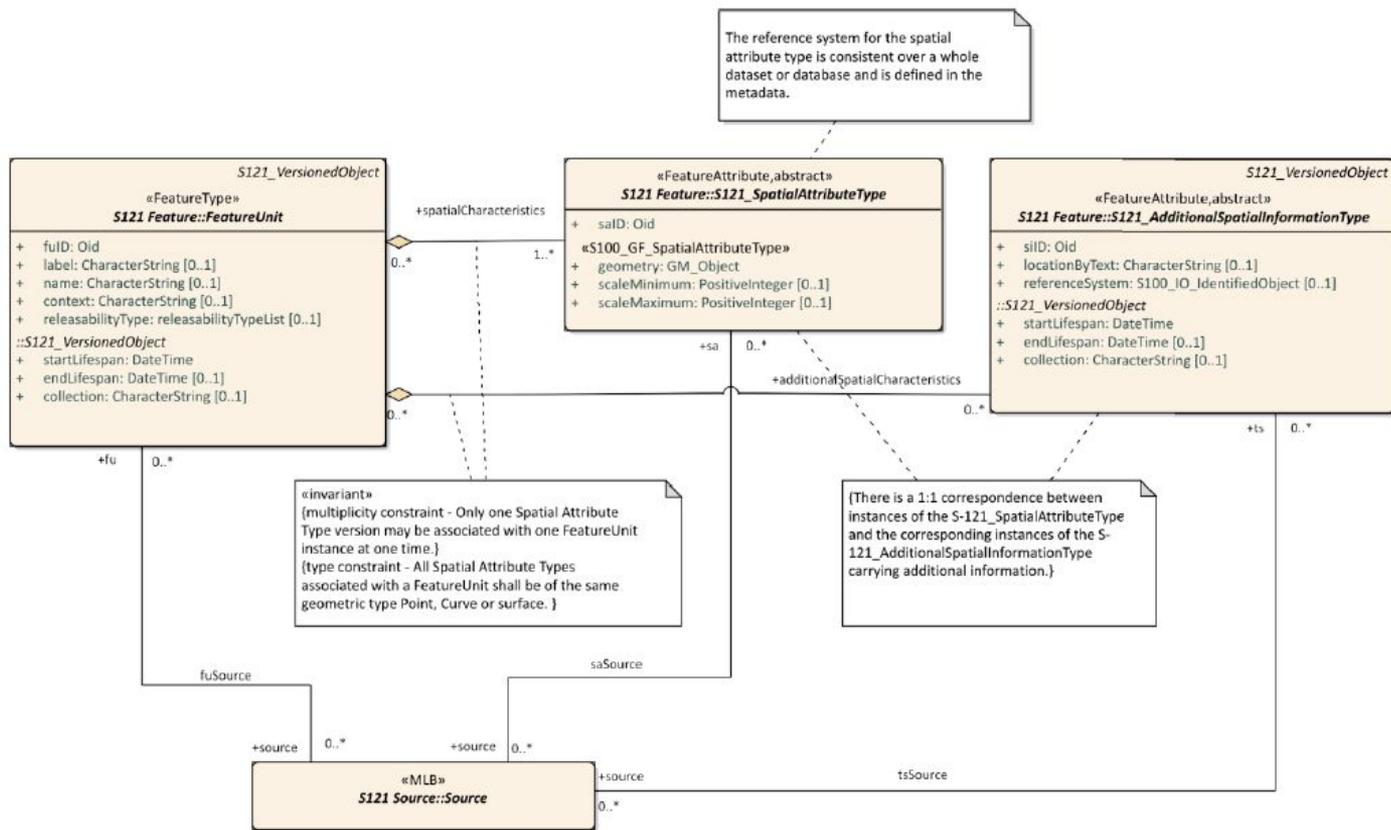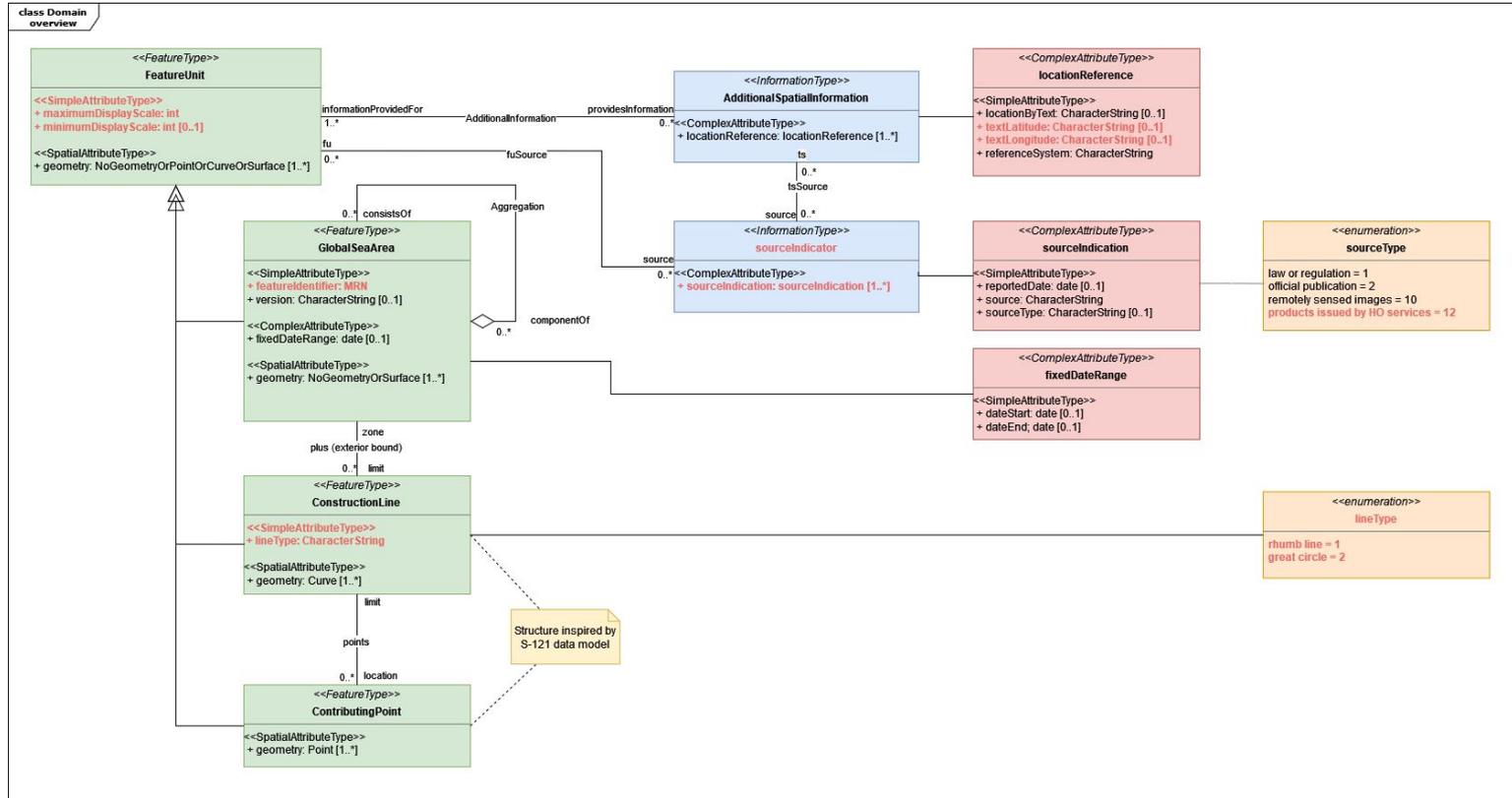**«MLB»**
S121 Source::Source

+source 0..*

Figure B-4 – S-121 Spatial Attribute Type

Scenario 6: outcome day 1

GI registry definition proposals

Concept	Feature data type	Proposed definition(s)	Note
GlobalSeaArea	FeatureType	(a) An area demarcating the limits of global seas and oceans **(b) An area describing the extents of global seas and oceans**	final choice to be decided
locationReference	ComplexAttribute Type	Textual information to describe a geographic location	
lineType	SimpleAttribute Type	???	
version	SimpleAttribute Type	Identification of a specific form or variation of **an entity**	
textLatitude	SimpleAttribute Type	Textual description of latitude information	
textLongitude	SimpleAttribute Type	Textual description of longitude information	

Association names and roles

Concept	Feature data type	Proposed definition(s)	Note
fuSource	Association name		based on S-121
source	Association role		based on S-121
fu	Association role		based on S-121
tsSource	Association name		based on S-121
source	Association role		based on S-121
ts	Association role		based on S-121

Product Specification 1.0.0
Feedback S-100 Chair

S130PT6-4.4

Feedback S-100 Chair

- Not clear if datasets will potentially overlap?

- If non-navigational purpose, no information on data loading and unloading is necessary

- Language: IHO does not use '*shall not*' → must/should/may to denote levels of restrictions

Product Specification 2.0.0
Review of relevant documents and products

S130PT6-4.5

Proposed timeline and work plan for S-130PT to achieve Edition 2.0.0

S130PT6-4.6

AOB

S130PT6-5

Elections of Chair, Vice Chair and Secretary

S130PT6-5.1

AOB

S130PT6-5.2

Group Photo

S130PT6-5.3

Date and Venue of Next Meeting

S130PT6-6

Review Action Items

S130PT6-7