# **Geo**

*Package in package 'S-121'*

Geo

Version 1.0 Phase 1.0 Proposed

kusal created on 19/06/2020. Last modified 19/06/2020

## **GeospatialFeatures diagram**

*GML diagram in package 'Geo'*

GeospatialFeatures

Version 1.3

Jonathan Pritchard created on 19/06/2020. Last modified 19/06/2020



GeospatialFeatures

## **AbstractGeographicFeatureType**

*Class «FeatureType» in package 'S-121'*

AbstractGeographicFeatureType is the base type for all the geospatial features. From this base type the point, limit and zone types are derived

AbstractGeographicFeatureType

Version 1.0 Phase 1.0 Proposed

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| **INCOMING STRUCTURAL RELATIONSHIPS** |
| --- |
| Realization from «FeatureType» AbstractLimitType to «FeatureType» AbstractGeographicFeatureType  [ Direction is 'Source -> Destination'. ] |

|  |
| --- |
| Realization from «FeatureType» AbstractLocationType to «FeatureType» AbstractGeographicFeatureType  [ Direction is 'Source -> Destination'. ] |

|  |
| --- |
| Realization from «FeatureType» AbstractZoneType to «FeatureType» AbstractGeographicFeatureType  [ Direction is 'Source -> Destination'. ] |

| **ATTRIBUTES** |
| --- |
| mrn : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  MRN has been added to the GML Schema and Feature catalogue. This requires harmonisation with other efforts within the IHO geospatial registry in line with its inclusion within the S-100 framework. MRN in the context of S-121 is "optional" - the option of using the S-100 Profile's FeatureObjectIdentifier element ("foid") is an acceptable alternative as a persistent unique identifier for individual features.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| label : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| collectionName : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  A textual label representing a neutral "Collection" label for the feature. This allows multiple groupings (either by state, function or other criteria) to exist within a single dataset.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| featureName : FeatureName Public  Multiplicity: ( [0..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| context : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| startLifespan : date Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| endLifespan : date Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| locationReference : LocationReference Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  An inline locationReference attribute - this allows inclusion of a single textual representation of a location if required. If multiple textual representations are required then they should be specified using an association with the AdditionalSpatialInformation information type.  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| releasabilityType : ReleasabilityType Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

| **ASSOCIATIONS** | |
| --- | --- |
| Association (direction: Unspecified) AdditionalInformation | |
| Source: Public identifies (Class) AbstractGeographicFeatureType «FeatureType»  Cardinality: [1..\*] | Target: Public refersTo (Class) AdditionalSpatialInformation «InformationType»  Cardinality: [0..\*] |

|  |  |
| --- | --- |
| Association (direction: Unspecified) Geo Aggregation | |
| Source: Public composedOf (Class) AbstractGeographicFeatureType «FeatureType» | Target: Public consistsOf (Class) AbstractGeographicFeatureType «FeatureType»  Cardinality: [0..\*] |

|  |  |
| --- | --- |
| Association (direction: Unspecified) BAU | |
| Source: Public administrationOf (Class) AbstractGeographicFeatureType «FeatureType»  Cardinality: [0..\*] | Target: Public administrativeInformation (Class) Basic Administrative Unit «InformationType»  Cardinality: [0..\*] |

|  |  |
| --- | --- |
| Association (direction: Unspecified) Geo Aggregation | |
| Source: Public composedOf (Class) AbstractGeographicFeatureType «FeatureType» | Target: Public consistsOf (Class) AbstractGeographicFeatureType «FeatureType»  Cardinality: [0..\*] |

## **AbstractLimitType**

*Class «FeatureType» in package 'S-121'*

AbstractLimitType

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| **OUTGOING STRUCTURAL RELATIONSHIPS** |
| --- |
| Realization from «FeatureType» AbstractLimitType to «FeatureType» AbstractGeographicFeatureType  [ Direction is 'Source -> Destination'. ] |

| **ATTRIBUTES** |
| --- |
| interpolationType : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## **AbstractLocationType**

*Class «FeatureType» in package 'S-121'*

AbstractLocationType

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| **OUTGOING STRUCTURAL RELATIONSHIPS** |
| --- |
| Realization from «FeatureType» AbstractLocationType to «FeatureType» AbstractGeographicFeatureType  [ Direction is 'Source -> Destination'. ] |

| **ATTRIBUTES** |
| --- |
| interpolationType : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| pointType : PointType Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## **AbstractZoneType**

*Class «FeatureType» in package 'S-121'*

AbstractZoneType

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| **OUTGOING STRUCTURAL RELATIONSHIPS** |
| --- |
| Realization from «FeatureType» AbstractZoneType to «FeatureType» AbstractGeographicFeatureType  [ Direction is 'Source -> Destination'. ] |

| **ATTRIBUTES** |
| --- |
| jurisdictionDomain : JurisdictionDomain Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## **AdditionalSpatialInformation**

*Class «InformationType» in package 'S-121'*

An information type holding a number of locationReference entries. This can store multiple textual representations of a position and reference system and can be shared between multiple geospatial features as well.

AdditionalSpatialInformation

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| **ATTRIBUTES** |
| --- |
| locationReference : LocationReference Public  Multiplicity: ( [1..\*], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «ComplexAttribute». Is static True. Containment is Not Specified. ] |

| **ASSOCIATIONS** | |
| --- | --- |
| Association (direction: Unspecified) AdditionalInformation | |
| Source: Public identifies (Class) AbstractGeographicFeatureType «FeatureType»  Cardinality: [1..\*] | Target: Public refersTo (Class) AdditionalSpatialInformation «InformationType»  Cardinality: [0..\*] |

## **FeatureName**

*Class «ComplexAttributeType» in package 'S-121'*

A copy of the IHO registry entry for Naming of features. This complex attribute allows for a number of names to be stored alongside a language identifier. The attribute "displayName" is included for compatibility with other featureName uses and could possibly be removed in the future.

FeatureName

Version 1.0 Phase 1.0 Proposed

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| **ATTRIBUTES** |
| --- |
| displayName : boolean Private  [ Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Language : Text Private  [ Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Name : Text Private  [ Is static True. Containment is Not Specified. ] |

## **LocationReference**

*DataType «ComplexAttributeType» in package 'S-121'*

LocationReference

Version 1.0 Phase 1.0 Proposed

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| **ATTRIBUTES** |
| --- |
| categoryOfLocation : CategoryOfLocation Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| locationByText : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  If a location is not described in latitude/longitude form then a textual description of a position (or number of positions) can be described in locationByText  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| textLat : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Textual representation of a latitude position.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| textLon : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  Textual representation of a longitude.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| referenceSystem : Text Public  A textual description or reference to the reference system for a textually defined position. this could be a formal datum or description of a datum (historical)  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## **CategoryOfLocation**

*Enumeration in package 'S-121'*

CategoryOfLocation

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| **ATTRIBUTES** |
| --- |
| AdditionalSpatialInformation : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| OriginalLocation : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| OfficialLocation : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| CommonLocation : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| GlobalLocation : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| WGS84Location : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## **JurisdictionDomain**

*Enumeration in package 'S-121'*

JurisdictionDomain

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| **ATTRIBUTES** |
| --- |
| Airspace : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Land Surface : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Water Surface : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Water Column : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Seabed Surface : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Subsoil : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## **PointType**

*Enumeration in package 'S-121'*

PointType

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| **ATTRIBUTES** |
| --- |
| defined : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| computed : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## **ReleasabilityType**

*Enumeration in package 'S-121'*

ReleasabilityType

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| **ATTRIBUTES** |
| --- |
| Official : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Internal : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Controlled : Public  [ Stereotype is «enum». Is static True. Containment is Not Specified. ] |

## **Note**

*Note in package 'Geo'*

All Point Features Derive from this feature types (omitted here for clarity)

* Baseline Point
* Limit Point
* Boundary Point
* Contributing Point

Note

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Extends

## **Note**

*Note in package 'Geo'*

All Line features (baselines, outer limits) derive from this feature type (omitted here for clarity)

* Baseline
* NormalBaseline
* StraightBaseline
* ArchipelagicBaseline
* LowTideElevationBaseline
* MouthOfRiversBaseline
* BayBaseline
* PortBaseline
* ReefBaseline
* Boundary
* InternationalBoundary
* Limit
* OuterLimitOfTheTerritorialSea
* OuterLimitOfTheContiguousZone
* OuterLimitOfTheExclusiveEconomicZone
* OuterLimitOfTheContinentalShelf
* OuterLimitOfTheRoadstead
* ConstructionLine

Note

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Extends

## **Note**

*Note in package 'Geo'*

All Area features (Zones) derive from this feature type (omitted here for clarity)

* Zone
* TerritorialSea
* ContiguousZone
* ExclusiveEconomicZone
* ContinentalShelf
* Roadstead
* InternalWaters
* TheArea
* HighSeas
* ArchipelagicWaters
* Strait

Note

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Extends

## **Text**

*Text in package 'Geo'*

Text

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Extends