# **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 24/06/2020



GeospatialFeatures

## **AbstractLimitType**

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

AbstractLimitType

Version 1.0 Phase 1.0 Proposed

kusal created on 28/01/2020. Last modified 24/06/2020

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

| **ATTRIBUTES** |
| --- |
| arcGeometryType : 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

Version 1.0 Phase 1.0 Proposed

kusal created on 28/01/2020. Last modified 24/06/2020

| **OUTGOING STRUCTURAL RELATIONSHIPS** |
| --- |
| Realization from «FeatureType» AbstractLocationType to «FeatureType» geographicFeatureType  [ 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

Version 1.0 Phase 1.0 Proposed

kusal created on 28/01/2020. Last modified 24/06/2020

| **OUTGOING STRUCTURAL RELATIONSHIPS** |
| --- |
| Realization from «FeatureType» AbstractZoneType to «FeatureType» geographicFeatureType  [ 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

Version 1.0 Phase 1.0 Proposed

kusal created on 28/01/2020. Last modified 19/06/2020

| **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) geographicFeatureType «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

kusal created on 28/01/2020. Last modified 19/06/2020

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

|  |
| --- |
| Language : Text Public  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  A textual description of the Language of the name. This could be referenced against an existing standard (IHO often uses ISO 639-2 for this attribute) or another standard used by the data producer.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

|  |
| --- |
| Name : Text Public  The name of the feature.  [ Stereotype is «SimpleAttribute». Is static True. Containment is Not Specified. ] |

## **geographicFeatureType**

*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

geographicFeatureType

Version 1.0 Phase 1.0 Proposed

kusal created on 28/01/2020. Last modified 24/06/2020

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

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

|  |
| --- |
| Realization from «FeatureType» AbstractLimitType to «FeatureType» geographicFeatureType  [ 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. 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 )  Feature Name allows multi-lingual names to be represented in all geospatial features. Simpler names can be encoded using the "label" attribute.  [ 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) BAU | |
| Source: Public administrationOf (Class) geographicFeatureType «FeatureType»  Cardinality: [0..\*] | Target: Public administrativeInformation (Class) Basic Administrative Unit «InformationType»  Cardinality: [0..\*] |

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

|  |  |
| --- | --- |
| Association (direction: Unspecified) Geo Aggregation  This relationship allows arbitrary hierarchical relationships to be formed between geospatial features, for instance baselines formed of baseline points, limits formed of multiple baseline sections etc whilst retaining the ability of the component features to have their own identity within the dataset. | |
| Source: Public composedOf (Class) geographicFeatureType «FeatureType» | Target: Public consistsOf (Class) geographicFeatureType «FeatureType»  Cardinality: [0..\*] |

|  |  |
| --- | --- |
| Association (direction: Unspecified) Geo Aggregation  This relationship allows arbitrary hierarchical relationships to be formed between geospatial features, for instance baselines formed of baseline points, limits formed of multiple baseline sections etc whilst retaining the ability of the component features to have their own identity within the dataset. | |
| Source: Public composedOf (Class) geographicFeatureType «FeatureType» | Target: Public consistsOf (Class) geographicFeatureType «FeatureType»  Cardinality: [0..\*] |

## **LocationReference**

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

LocationReference

Version 1.0 Phase 1.0 Proposed

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

| **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. ] |

## **ArcGeometryType**

*Enumeration «Enumeration» in package 'S-121'*

ArcGeometryType

Version 1.0 Phase 1.0 Proposed

kusal created on 24/06/2020. Last modified 24/06/2020

| **ATTRIBUTES** |
| --- |
| geodesic : Public  [ Is static True. Containment is Not Specified. ] |

|  |
| --- |
| loxodrome : Public  [ Is static True. Containment is Not Specified. ] |

## **CategoryOfLocation**

*Enumeration in package 'S-121'*

CategoryOfLocation

Version 1.0 Phase 1.0 Proposed

kusal created on 05/02/2020. Last modified 13/02/2020

| **ATTRIBUTES** |
| --- |
| AdditionalSpatialInformation : Public  An other category of textual representation  [ 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

Version 1.0 Phase 1.0 Proposed

kusal created on 05/02/2020. Last modified 13/02/2020

| **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

Version 1.0 Phase 1.0 Proposed

kusal created on 05/02/2020. Last modified 13/02/2020

| **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

Version 1.0 Phase 1.0 Proposed

kusal created on 05/02/2020. Last modified 13/02/2020

| **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 'S-121'*

All Point Features Derive from this feature types

* Location (Generic)
* Baseline Point
* Limit Point
* Boundary Point
* Contributing Point

Note

Version 1.0 Phase 1.0 Proposed

kusal created on 05/02/2020. Last modified 24/06/2020

Extends

## **Note**

*Note in package 'S-121'*

All Line features (baselines, outer limits) derive from this feature type

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

Note

Version 1.0 Phase 1.0 Proposed

kusal created on 05/02/2020. Last modified 24/06/2020

Extends

## **Note**

*Note in package 'S-121'*

All Area features (Zones) derive from this feature type

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

Note

Version 1.0 Phase 1.0 Proposed

kusal created on 05/02/2020. Last modified 19/06/2020

Extends

## **Text**

*Text in package 'Geo'*

Text

Version 1.0 Phase 1.0 Proposed

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

Extends

## **ArcGeometryType**

*Enumeration «Enumeration» in package 'Geo'*

ArcGeometryType

Version 1.0 Phase 1.0 Proposed

kusal created on 24/06/2020. Last modified 24/06/2020

| **ATTRIBUTES** |
| --- |
| geodesic : Public  [ Is static True. Containment is Not Specified. ] |

|  |
| --- |
| loxodrome : Public  [ Is static True. Containment is Not Specified. ] |