



# **Socioeconomics Geodatabase Guide**

Version 3.0

WP9 Data Management and Synthesis

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## **1. Introduction**

CoCoNet is a European project that will produce guidelines to design, manage and monitor network of MPAs and Ocean Wind Farms. The Project covers a high number of Countries and involves researchers covering a vast array of subjects, developing a timely holistic approach and integrating the Mediterranean and Black Seas scientific communities through intense collective activities and a strong communication line with stakeholders and the public at large. Within this project we aim at providing a common framework for marine data management and final synthesis of the outcomes of different scientific topics from heterogeneous sources. An integrated Geodatabase and a WebGIS system will be the linking tool for all partners, regions and thematic research. It will involve the entire consortium at different levels in topics such as data provision and integration, GIS products, GIS interpretation, data archiving and data exchange. The work is organised around the following main objectives:

- assess the rules for data and metadata sharing between partners reviewing the existing common European protocols and standards (INSPIRE);
- design and implement data repositories (Marine Geodatabase) following the INSPIRE Directive, to store and retrieve the spatial data collected during the lifespan of the project for the Mediterranean and Black Sea areas and for the pilot study areas;
- develop the COCONET WebGIS to integrate the multi scale GIS layers derived from all regions going towards an integrated management of the marine resources;
- develop an analytical and evaluative framework for designing, managing and monitoring regional networks of MPAs, including wind farms, centred on science-based guidelines, criteria, concepts and models.

The CoCoNet project produced the architecture of ten Geodatabases storing data about the major themes starting from the INSPIRE Directive: Protected sites, Habitats and Biotopes, Threats, Geology, Biodiversity, Offshore Wind Farms, Elevation, Maritime Units, Oceanography, Socioeconomics.

The final goal will be to deliver digital maps of networks of marine protected areas and offshore wind farms as final synthesis of the outcome from all scientific topics. The integrated Geodatabase will be a fundamental tool to produce the guidelines to design, manage and monitor network of MPAs, and an enriched wind atlas for both the Mediterranean and the Black Seas. The Project will identify groups of putatively interconnected MPAs in the Mediterranean and the Black Seas, shifting from local (single MPA) to regional (Networks of MPAs) and basin (network of networks) scales. The identification of physical and biological connections with clear the processes that govern patterns of biodiversity distribution. This will enhance policies of effective environmental management, also to ascertain if the existing MPAs are sufficient for ecological networking and to suggest how to design further protection schemes based on effective exchanges between protected areas.

## **2. Geodatabase design**

The INSPIRE data model is the conceptual model which the Elevation Geodatabase is inspired. The logic model is built in Microsoft Visio 2007 using ESRI classes. The physical model is a ESRI File Geodatabase, with

Feature Classes, Object Classes, Domains, Subtypes, Relationship Classes, Feature Dataset and RasterCatalogs.

Feature Class: a collection of geographic features with the same geometry type (such as point, line, or polygon), the same attributes, and the same spatial reference. Feature classes can be stored in geodatabases, shapefiles, coverages, or other data formats. Feature classes allow homogeneous features to be grouped into a single unit for data storage purposes. For example, highways, primary roads, and secondary roads can be grouped into a line feature class named "roads." In a geodatabase, feature classes can also store annotation and dimensions

Object Class: In a geodatabase, a collection of nonspatial data of the same type or class. While spatial objects (features) are stored in feature classes in a geodatabase, nonspatial objects are stored in object classes.

Relationship Class: An item in the geodatabase that stores information about a relationship. A relationship class is visible as an item in the ArcCatalog tree or contents view.

Domains: The range of valid values for a particular metadata element.

Code Value Domain: A type of attribute domain that defines a set of permissible values for an attribute in a geodatabase. A coded value domain consists of a code and its equivalent value. For example, for a road feature class, the numbers 1, 2, and 3 might correspond to three types of road surface: gravel, asphalt, and concrete. Codes are stored in a geodatabase, and corresponding values appear in an attribute table.

Subtype: In geodatabases, a subset of features in a feature class or objects in a table that share the same attributes. For example, the streets in a streets feature class could be categorized into three subtypes: local streets, collector streets, and arterial streets. Creating subtypes can be more efficient than creating many feature classes or tables in a geodatabase.

Feature Dataset: In ArcGIS, a collection of feature classes stored together that share the same spatial reference; that is, they share a coordinate system, and their features fall within a common geographic area. Feature classes with different geometry types may be stored in a feature dataset.

Raster Catalog: A collection of raster datasets defined in a table of any format, in which the records define the individual raster datasets that are included in the catalog. Raster catalogs can be used to display adjacent or overlapping raster datasets without having to mosaic them together into one large file (<http://support.esri.com/en/knowledgebase/GISDictionary/term/object%20class>).

The socioeconomic Geodatabase can store spatial data (vector, grid and raster) and nonspatial data (.dbf).

The socioeconomic Geodatabase is available as .xml file. To use it in ArcGIS, create an empty File Geodatabase and import the .xml file.

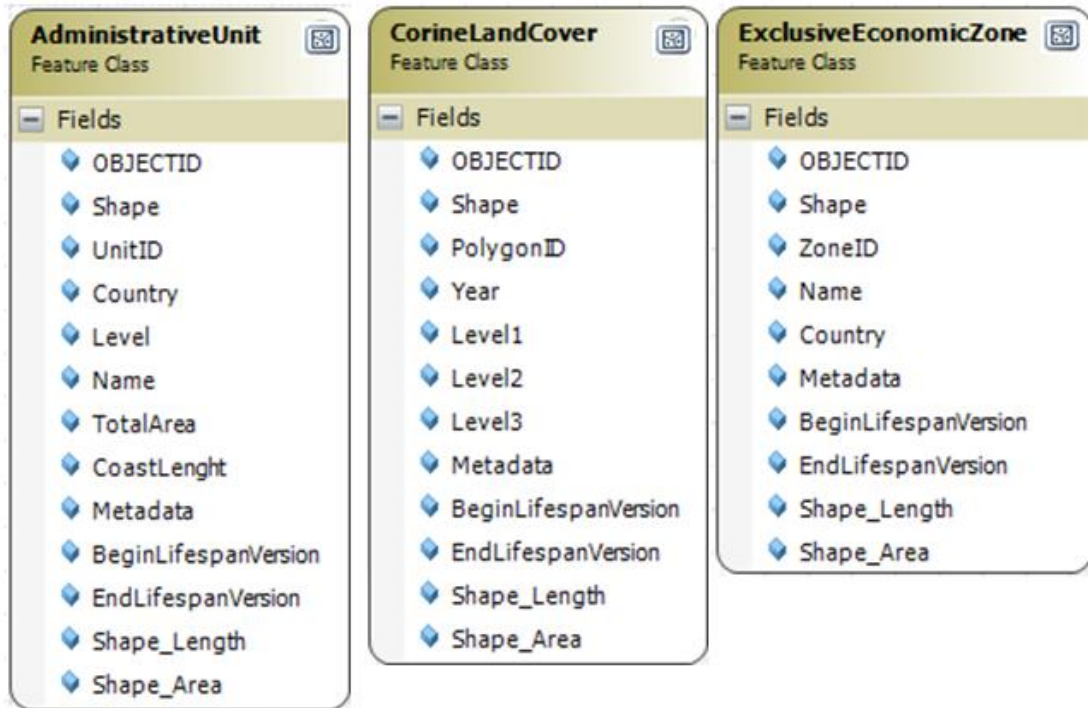
### **3. Geodatabase architecture**

The socioeconomic Geodatabase consists of three Feature Classes (AdministrativeUnits, CorineLandCover, ExcluseEconomicZone) and five Object Classes (DemographicInfo, EconomicInfo, RelatedParty, SourceMethodType and StakeholderPosition). The tables are linked to the Feature Classes through Relationship Classes. Domains and Subtypes are present In the Feature Classes and in the Object Classes.

### 3.1. Feature Classes

The Socioeconomics Geodatabase collects Feature Classes with socioeconomic or demographic information. There are 3 Feature Classes:

- AdministrativeUnit
- CORINELandCover
- ExclusiveEconomicZone



#### 3.1.1. Feature Class: AdministrativeUnit

Unit of administration where a Member State has and/or exercises jurisdictional rights, for local, regional and national governance (INSPIRE Directive, r4618).

GeometryType: Polygon

Field	Type	Restriction	Description
UnitID	String	None	Identification string of the administrative unit.
Country	String	Code Value Domain	Country to which the administrative unit belongs.
Level	Integer	String	Level of the administrative unit from 0 (country) to 5 (the smaller unit).
Name	String	String	Name of the administrative unit.
TotalArea	Double	None	Total area of the administrative unit in square kilometers.
CoastLenght	Double	None	Length of the coast in the administrative unit in kilometers.
BeginLifespanVersion	Date	None	Date at which this version of the spatial object was inserted or changed in the spatial data set (INSPIRE Directive, r4618).

EndLifespanVersion	Date	None	Date at which this version of the spatial object was superseded or retired in the spatial data set (INSPIRE Directive, r4618).
Metadata	String	None	Name of the metadata file available in the SeaDataNet repository.

Note 1: the ID fields have to be unique in the entire Geodatabase

### 3.1.2. Feature Class: CorineLandCover

CORINE Land Cover (CLC) is a geographic land cover/land use database encompassing most of the countries of the European Community (except Sweden and Finland for which the inventory will be finalised in 2000-2002) and the majority of the Central and East European countries and parts of the Maghreb. CLC describes land cover (and partly land use) according to a nomenclature of 44 classes organised hierarchically in three levels (table 1). The first level (5 classes) corresponds to the main categories of the land cover/land use (artificial areas, agricultural land, forests and semi-natural areas, wetlands, water surfaces). The second level (15 classes) covers physical and physiognomic entities at a higher level of detail (urban zones, forests, lakes, etc), finally level 3 is composed of 44 classes. CLC was elaborated based on the visual interpretation of satellite images (SPOT, LANDSAT TM and MSS). Ancillary data (aerial photographs, topographic or vegetation maps, statistics, local knowledge) were used to refine interpretation and the assignment of the territory into the categories of the CORINE Land Cover nomenclature. The smallest surfaces mapped (mapping units) correspond to 25 hectares. Linear features less than 100 m in width are not considered. The scale of the output product was fixed at 1:100.000. Thus, the location precision of the CLC database is 100 m (<http://ec.europa.eu/agriculture/publi/landscape/about.htm>).

In the framework on the CoCoNet project we used only the data in the first 15 kilometers from the coast, we used a buffer to extract the area.

GeometryType: Polygon

Field	Type	Restriction	Description
PolygonID	String	None	Identification string of the CLC polygon.
Year	Integer	None	Year to which the data refers.
Level1	String	Code Value Domain	First level of the CLC classification (5 classes). It corresponds to the main categories of the land cover on the planet (artificial areas, agricultural land, forests and semi-natural areas, wetlands, water surfaces).
Level2	String	Code Value Domain	Second level of the CLC classification (15 classes). It covers physical and physiognomic entities at a higher level of detail (urban zones, forests, lakes, etc)
Level3	String	Code Value Domain	Third 3 of the CLC classification (44 classes).
BeginLifespanVersion	Date	None	Date at which this version of the spatial object was inserted or changed in the spatial data set (INSPIRE Directive, r4618).
EndLifespanVersion	Date	None	Date at which this version of the spatial object was superseded or retired in the spatial data set (INSPIRE Directive, r4618)..
Metadata	String	None	Name of the metadata file available in the SeaDataNet repository.

### 3.1.3. Feature Class: ExclusiveEconomicZone

An area beyond and adjacent to the territorial sea of a coastal State, subject to the specific legal regime under which the rights and jurisdiction of the coastal State and the rights and freedoms of the State are governed by the relevant provisions of the United Nations Conventions on Law of the Sea set (INSPIRE Directive, r4618).

GeometryType: Polygon

Field	Type	Restriction	Description
ZoneID	String	None	Identification string of EEZ.
Name	String	None	Name of the EEZ.
Country	String	Code Value Domain	Name of the country to which the EEZ belongs.
BeginLifespanVersion	Date	None	Date at which this version of the spatial object was inserted or changed in the spatial data set (INSPIRE Directive, r4618).
EndLifespanVersion	Date	None	Date at which this version of the spatial object was superseded or retired in the spatial data set (INSPIRE Directive, r4618)..
Metadata	String	None	Name of the metadata file available in the SeaDataNet repository.

## 3.2. Object Classes

### 3.2.1. Object Class: DemographicInfo

The table collects all the demographic parameters related to the coastal State involved in the CoCoNet project.

Field	Type	Restriction	Description
ObjectIDfk	String	None	Identification string of the reference country. The field is used as foreign key (fk).
Year	String	Code Value Domain	Year to which the parameter refers.
Parameter	String	None	Reference parameter .
Value	String	None	Value of the parameter in the field "Parameter".
UnitOfMeasure	String	Code Value Domain	Unit of measurement of the parameter in the field "Parameter".
Source	String	None	Source of the information.

### 3.2.2. Object Class: EconomicInfo

The table collects all the economic parameters related to the coastal State involved in the CoCoNet project.

Field	Type	Restriction	Description
ObjectIDfk	String	None	Identification string of the reference country. The field is used as foreign key (fk).
Year	String	Code Value Domain	Year to which the parameter refers.
Parameter	String	None	Reference parameter .
Value	String	None	Value of the parameter in the field "Parameter".

UnitOfMeasure	String	Code Value Domain	Unit of measurement of the parameter in the field "Parameter".
Source	String	None	Source of the information.

### 3.2.3. Object Class: RelatedParty

An organization or a person with a role related to a resource (INSPIRE Directive, r4618).

Campo	Tipo	Limitazioni	Definizione
ObjectIDfk	String	None	Identification string of the elevation object. The field is used as foreign key.
IndividualName	String	None	Name of the related party (INSPIRE Directive, r4618).
PositionName	String	None	Position of the party in relation to a resource, such as head of department (INSPIRE Directive, r4618).
Role	String	Code Value Domain	Role(s) of the party in relation to a resource, such as owner (INSPIRE Directive, r4618).
Contact	String	None	Contact information for the related party (INSPIRE Directive, r4618).
OrganizationCode	String	None	Code of the related organization (INSPIRE Directive, r4618).
OrganizationName	String	None	Name of the related organization (INSPIRE Directive, r4618).
Country	String	Code Value Domain	Country of the related organization (INSPIRE Directive, r4618).

### 3.2.4. Object Class: SourceMethodType

Contains metadata about specific instances of elevation object. Refers to the methods on how observations have been made or recorded (INSPIRE Directive, r4618).

Campo	Tipo	Limitazioni	Definizione
ObjectIDfk	String	None	Identification string of the elevation object. The field is used as foreign key.
MethodScheme	String	None	Scheme used to compiling the Method Value field (Article17SourceMethodValue or GeneralSourceMethod) (INSPIRE Directive, r4618).
MethodValue	String	None	Method by which the data on elevation object is collected (INSPIRE Directive, r4618).
MethodReference	String	None	A reference to a description of the method by which the data on elevation object is collected (INSPIRE Directive, r4618)..
SourceDatabase	String	None	Name of the database where the elevation object data is retrieved from (INSPIRE Directive, r4618).

### 3.2.5. Object Class: StakeholderPosition

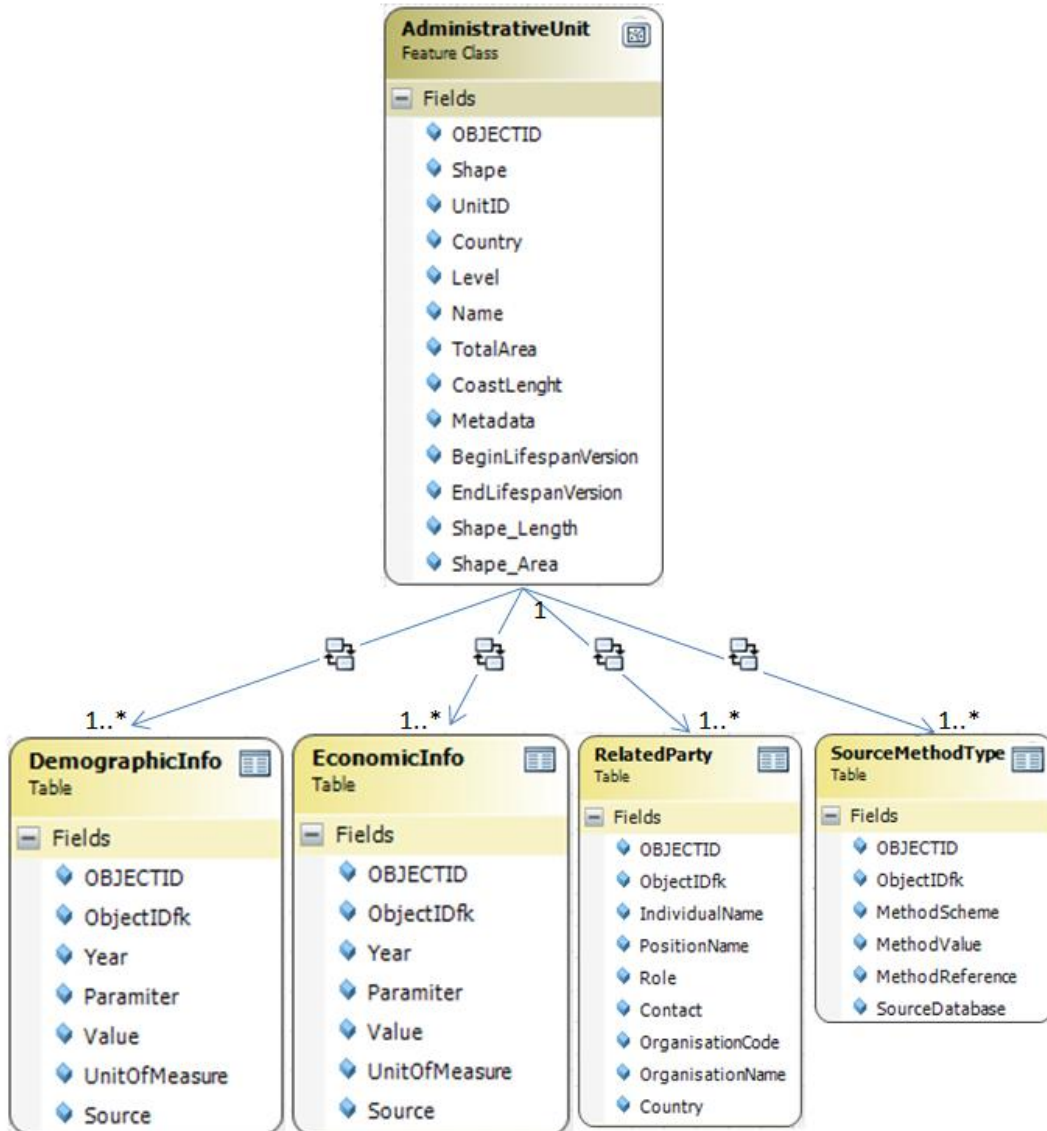
The table collects all the information about the position of stakeholders about the major themes such as the marine protected sites.

Campo	Tipo	Limitazioni	Definizione
Countryfk	String	None	Identification string of the reference country. The field is used as foreign key (fk).
Stakeholder	String	None	Person, organization, entity to which the position refers.
Issue	String	None	Theme, question of the expressed opinion.
Position	String	None	Image that shows the position of the referred stakeholder

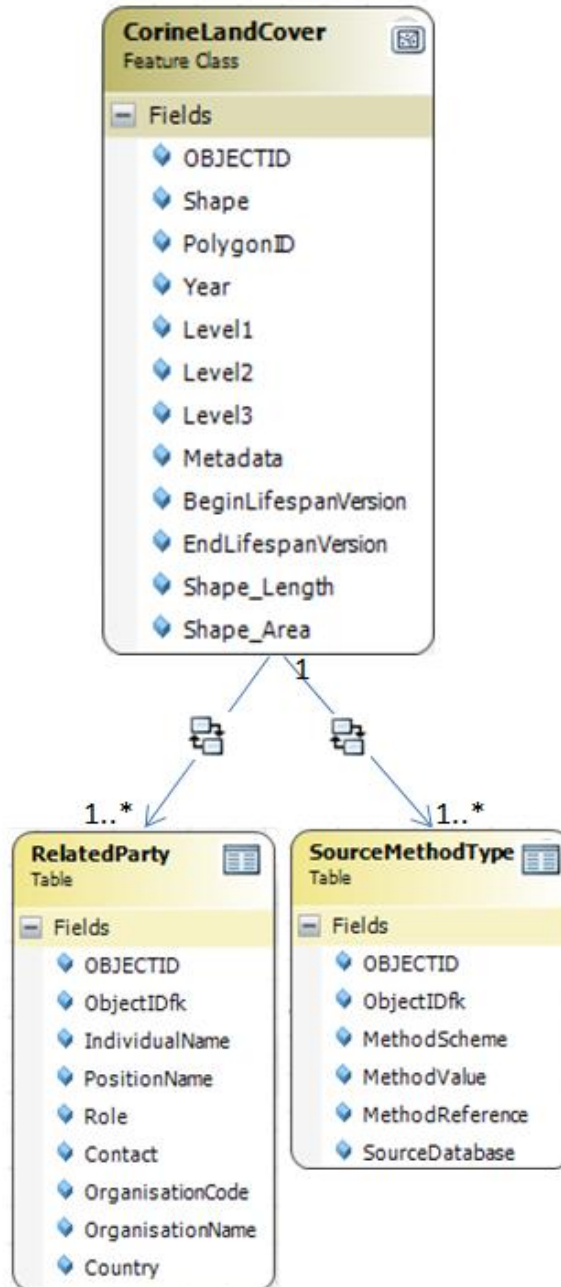


			about the theme in the field "Issue".
StakeholderPositionPaper			Reference (title or link) to the stakeholder position paper the image belongs.
Source	String	None	Source of the information.

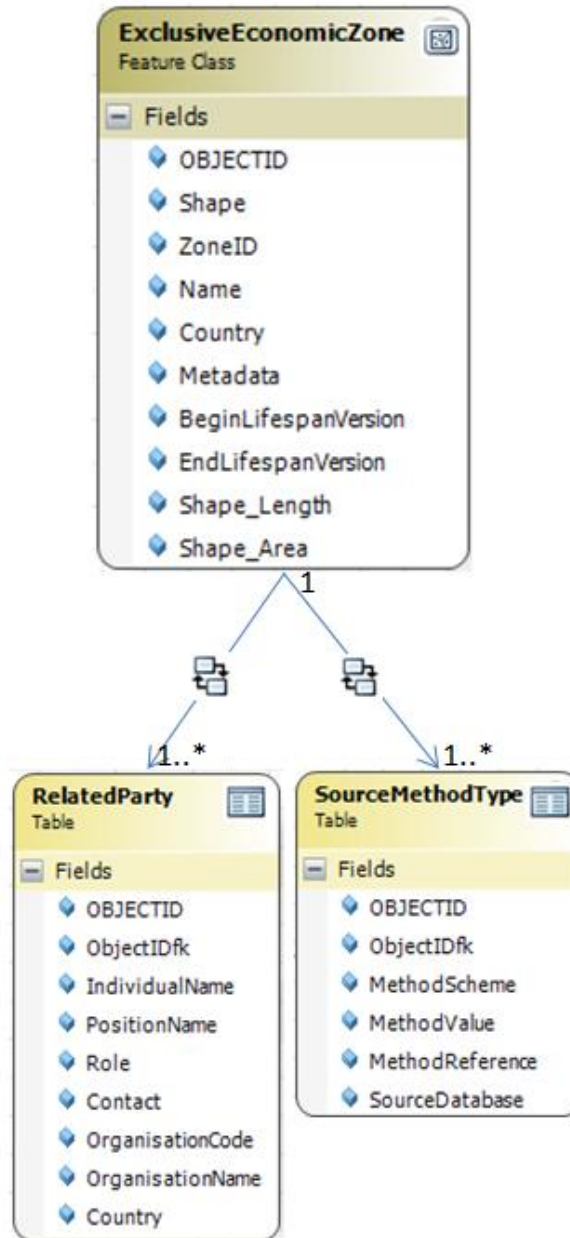
### 3.3. Relationship Classes



Name	Multiplicity	Origin class	Destination class	Primary key	Foreign key
AdministrativeUnitHas DemographicInfo	1→1..*	AdministrativeUnit	DemographicInfo	UnitID	ObjectIDfk
AdministrativeUnitHas EconomicInfo	1→1..*	AdministrativeUnit	EconomicInfo	UnitID	ObjectIDfk
AdministrativeUnitHas StakeholderPosition	1→1..*	AdministrativeUnit	StakeholderPosition	Country	CountryIDkf
HabitatAreaHas SourceMethdoType	1→1..*	AdministrativeUnit	SourceMethodType	UnitID	ObjectIDfk
HabitatAreaHas RelatedParty	1→1..*	AdministrativeUnit	RelatedParty	UnitID	ObjectIDfk



Name	Multiplicity	Origin class	Destination class	Primary key	Foreign key
CorineLandCoverHas SourceMethodType	1→1..*	CorineLandCover	SourceMethodType	PolygonID	ObjectIDfk
CorineLandCoverHas RelatedParty	1→1..*	CorineLandCover	RelatedParty	PolygonID	ObjectIDfk



Name	Multipli city	Origin class	Destination class	Primary key	Foreign key
ExclusiveEconomicZoneHas SourceMethdoType	1→1..*	ExclusiveEconomicZone	SourceMeth odType	ZoneID	ObjectIDfk
ExclusiveEconomicZoneHas RelatedParty	1→1..*	ExclusiveEconomicZone	RelatedParty	ZoneID	ObjectIDfk

#### 4. Metadata

In the framework of the CoCoNet project, metadata are produced by Mikado software. Each Feature Class and raster layer has a CDI (Common Data Index) accessible through the SeaDataNet portal ([http://seadatanet.maris2.nl/v\\_cdi\\_v3/search.asp](http://seadatanet.maris2.nl/v_cdi_v3/search.asp)). The CDIs are also available on the webpage <http://coconetgis.ismar.cnr.it/> as .xml files, grouped by Geodatabase. Lastly, the metadata file is linked to the feature or to the raster file through a field in the attribute table.

## **ANNEX 1**

### **Acronyms**

CDI – Common Data Index

CLC – Corine Land Cover

FC – Feature Class

FD – Feature Dataset

OC - Object Class

fk – foreign key

### **References**

Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

<http://inspire.ec.europa.eu/data-model/approved/r4618-ir/html/>

<http://coconetgis.ismar.cnr.it/>

[http://seadatanet.maris2.nl/v\\_cdi\\_v3/search.asp](http://seadatanet.maris2.nl/v_cdi_v3/search.asp)

[http://image2000.jrc.ec.europa.eu/reports/technical\\_guide.pdf](http://image2000.jrc.ec.europa.eu/reports/technical_guide.pdf)

<http://ec.europa.eu/agriculture/publi/landscape/about.htm>

## ANNEX 2 – Domains

### Article17SourceMethodValue\_v3

Type: Code Value Domain

Description: The methods that have been used in the sources for compiling the information about the occurrences of the habitats within an aggregation unit for article 17 purposes. Describes how the information about the occurrences of the habitats within a a unit has been compiled (INSPIRE Directive, r4618-ir)

Value	Code	Definition
Absent data	absentData	Absent data (INSPIRE Directive, r4618-ir)
Complete survey	completeSurvey	Complete survey (INSPIRE Directive, r4618-ir)
Estimate expert	estimateExpert	Estimate based in expert opinion with no or minimal sampling (INSPIRE Directive, r4618-ir)
Estimate partial	estimatePartial	Estimate based on partial data with some extrapolation and/or modeling (INSPIRE Directive, r4618-ir)

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: SourceMethodType (OC)

Extensibility: none

Note 1: The values of the list are found here:

[http://circa.europa.eu/Public/irc/env/monnat/library?l=/habitats\\_reporting/reporting\\_2007-2012/reporting\\_guidelines/reporting-formats\\_1/\\_EN\\_1.0\\_&a=d \(D2.8.II.1\\_v3.0\)](http://circa.europa.eu/Public/irc/env/monnat/library?l=/habitats_reporting/reporting_2007-2012/reporting_guidelines/reporting-formats_1/_EN_1.0_&a=d (D2.8.II.1_v3.0))

### CLC\_Level1\_v3

Type: Code Value Domain

Description: Classes of the first level of the CLC classification (CORINE Land Cover – Technical guide, EEA).

Value	Code	Definition
Artificial surfaces	1	Artificial surfaces
Agricultural areas	2	Agricultural areas
Forest and semi-natural areas	3	Forest and semi-natural areas
Wetlands	4	Wetlands
Water bodies	5	Water bodies

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: CorineLandCover (FC)

Extensibility: none

Note: none

### CLC\_Level2\_v3

Type: Code Value Domain

Description: Classes of the second level of the CLC classification (CORINE Land Cover – Technical guide, EEA).

Value	Code	Definition
Urban fabric	11	Urban fabric
Industrial, commercial	12	Industrial, commercial and transport

and transport units		
Mine, dump and construction sites	13	Mine, dump and construction sites
Artificial non-agricultural vegetated areas	14	Artificial, non-agricultural vegetated areas
Arable land	21	Cultivated areas regularly ploughed and generally under a rotation system.
Permannet crops	22	Crops not under a rotation system which provide repeated harvests and occupy the land for a long period before it is ploughed and replanted: mainly plantations of woody crops. Excludes pastures, grazing lands and forests.
Pastures	23	Pastures
Heterogeneous agricultural areas	24	Heterogeneous agricultural areas
Forests	31	Forests
Shrub and/or herbaceous vegetation associations	32	Shrub and/or herbaceous vegetation associations
Open spaces with little or no vegetation	33	Open spaces with little or no vegetation
Inland wetlands	41	Non-forested areas either partially, seasonally or permanently waterlogged. The water may be stagnant or circulating.
Coastal wetlands	42	Non-wooded areas either tidally, seasonally or permanently waterlogged with brackish or saline water.
Inland waters	51	Inland waters
Marine waters	52	Marine waters

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: CorineLandCover (FC)

Extensibility: none

Note: none

### CLC\_Level3\_v3

Type: Code Value Domain

Description: Classes of the third level of the CLC classification (CORINE Land Cover – Technical guide, EEA).

Value	Code	Definition
Continuous urban fabric	111	Most of the land covered by buildings, roads and artificially surfaced area cover almost all the ground. Non-linear areas of vegetation and bare soil are exceptional.
Discontinuous urban fabric	112	Most of the land is covered by structures. Buildings, roads and artificially surfaced areas associated with vegetated areas and bare soil, which occupy discontinuous but significant surfaces.
Industrial or commercial units	121	Artificially surfaced areas (with concrete, asphalt, tamacadam, or stabilised, e.g. beaten earth) devoid of vegetation, occupy most of the area in question, which also contains buildings and/or vegetated areas.
Road and rail networks	122	Motorways, railways, including associated installations (stations,

and associated land		platforms, embankments). Minimum width to include: 1 00 m.
Port Areas	123	Infrastructure of port areas, including quays, dockyards and marinas.
Airports	124	Airport installations: runways, buildings and associated land.
Mineral extraction sites	131	Areas with open-pit extraction of industrial minerals (sandpits, quarries) or other minerals (opencast mines). Includes flooded gravel pits, except for river-bed extraction.
Dump sites	132	Landfill or mine dump sites, industrial or public.
Construction sites	133	Spaces under construction development, soil or bedrock excavations, earthworks.
Green urban areas	141	Areas with vegetation within urban fabric. Includes parks and cemeteries with vegetation.
Sport and leisure facilities	142	Camping grounds, sports grounds, leisure parks, golf courses, racecourses, etc. Includes formal parks not surrounded by urban zones.
Non-irrigated arable land	211	Cereals, legumes, fodder crops, root crops and fallow land. Includes flower and tree (nurseries) cultivation and vegetables, whether open field, under plastic or glass (includes market gardening). Includes aromatic, medicinal and culinary plants. Excludes permanent pastures.
Permanently irrigated land	212	Crops irrigated permanently and periodically, using a permanent infrastructure (irrigation channels, drainage network). Most of these crops could not be cultivated without an artificial water supply. Does not include sporadically irrigated land.
Rice fields	213	Land developed for rice cultivation. Flat surfaces with irrigation channels. Surfaces regularly flooded.
Vineyards	221	Areas planted with vines.
Fruit trees and berry plantations	222	Parcels planted with fruit trees or shrubs: single or mixed fruit species, fruit trees associated with permanently grassed surfaces. Includes chestnut and walnut groves.
Olive groves	223	Areas planted with olive trees, including mixed occurrence of olive trees and vines on the same parcel.
Pastures	231	Dense, predominantly graminoid grass cover, of floral composition, not under a rotation system. Mainly used for grazing, but the fodder may be harvested mechanically. Includes areas with hedges (bocage).
Annual crops associated with permanent crops	241	Non-permanent crops (arable lands or pasture) associated with permanent crops on the same parcel.
Complex cultivation patterns	242	Juxtaposition of small parcels of diverse annual crops, pasture and/or permanent crops.
Land principally occupied by agriculture, with significant areas of natural	243	Areas principally occupied by agriculture, interspersed with significant natural areas.
Agro-forestry areas	244	Annual crops or grazing land under the wooded cover of forestry species.
Broad-leaved forest	311	Vegetation formation composed principally of trees, including shrub and bush understories, where broadleaved species predominate.
Coniferous forest	312	Vegetation formation composed principally of trees, including

		shrub and bush understories, where coniferous species predominate.
Mixed forest	313	Vegetation formation composed principally of trees, including shrub and bush understories, where broadleaved and coniferous species co~dominate.
Natural grassland	321	Low productivity grassland. Often situated in areas of rough uneven ground. Frequently includes rocky areas, briars, and heathland.
Moors and heathland	322	Vegetation with low and closed cover, dominated by bushes, shrubs and herbaceous plants (heath, briars, broom, gorse, laburnum, etc.).
Sclerophyllous vegetation	323	Bushy sclerophyllous vegetation. Includes maquis and garrige. Maquis: a dense vegetation association composed of numerous shrubs associated with siliceous soils in the Mediterranean environment.
Transitional woodland-scrub	324	Bushy or herbaceous vegetation with scattered trees. Can represent either woodland degradation or forest regeneration/colonisation.
Beaches, dunes, sands	331	Beaches, dunes and expanses of sand or pebbles in coastal or continental , including beds of stream channels with torrential regime.
Bare rocks	332	Scree, cliffs, rocks and outcrops.
Sparsely vegetated areas	333	Includes steppes, tundra and badlands. Scattered high-attitude vegetation.
Burnt areas	334	Areas affected by recent fires, still mainly black.
Glaciers and perpetual snow	335	Land covered by glaciers or permanent snowfields.
Inland marshes	411	Low-lying land usually flooded in winter, and more or less saturated by water all year round.
Peat bogs	412	Peatland consisting mainly of decomposed moss and vegetable matter. May or may not be exploited.
Salt marshes	421	Vegetated low-lying areas, above the high-tide line, susceptible to flooding by sea water. Often in the process of filling in, gradually being colonised by halophilic plants.
Salines	422	Salt-pans, active or in process of . Sections of salt marsh exploited for the production of salt by evaporation. They are clearly distinguishable from the rest of the marsh by their segmentation and embankment systems.
Intertidal flats	423	Generally unvegetated expanses of mud, sand or rock lying between high and low water-marks. On contour on maps.
Water courses	511	Natural or artificial water-courses serving as water drainage channels. Includes canals. Minimum width to include: 100 m.
Water bodies	512	Natural or artificial stretches of water
Coastal lagoons	521	Unvegetated stretches of salt or brackish waters separated from the sea by a tongue of land or other similar topography. These water bodies can be connected with the sea at limited points, either permanently or for parts of the year only.
Estuaries	522	The mouth of a river within which the tide ebbs and flows.
Sea and ocean	523	Zone seaward of the lowest tide limit.
Ocean	950	Ocean
European Union	951	European Union



Non European Union	952	Non European Union
Not Classified	999	Not Classified

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: CorineLandCover (FC)

Extensibility: none

Note: none

### CountryCode\_v3

Type: Code Value Domain

Description: Country code as defined in the Interinstitutional style guide published by the Publications Office of the European Union (INSPIRE Directive, r4618-ir)

Value	Code
Albania	AL
Algeria	ZD
Bosnia and Herzegovina	BA
Bulgaria	BG
Cyprus	CY
Croatia	HR
Egypt	EG
France	FR
Georgia	GE
Gibraltar	GI
Greece	EL
Israel	IL
Italy	IT
Lebanon	LB
Libya	LY
Malta	MT
Monaco	MC
Morocco	MA
Montenegro	ME
Romania	RO
Russia	RU
Slovenia	SI
Spain	ES
Syria	SY
Tunisia	TN
Turkey	TR
Ukraine	UA
United Kingdom	UK

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: RelatedParty (OC), HabitatPoint (FC), HabitatLine(FC), HabitatArea(FC)

Extensibility: none

Note 1: none

### DemoParameter

Type: Code Value Domain

Description: list of the demographic parameters.

Value	Code	Definition
Sex	sex	
Age	age	
Salary	salary	
Nationality	nationality	
Marital status	marital status	
Education level	educationLevel	
Coastal population density	coastalPopulationDensity	
Coastal female population	coastalFemalePopulation	
Coastal male population	coastalMalePopulation	
Coastal population aged unde 15 years	coastalPopulationAgedUnd15years	
Coastal population aged 15 to 64 years	coastalPopulationAged15to64years	
Coastal populatione aged 65 years or over	coastalPopulationeAged65yearsOrOver	

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: DemographicInfo (OC)

Extensibility: none

Note: none

### EcoParameter

Type: Code Value Domain

Description: list of the economic parameters.

Value	Code	Definition
Total nitgh spent in hotel in coastal areas	total nitgh spent in hotel in coastal areas	
Total number of establishments on coastal area	total number of establishments on coastal area	
Human well being indices	humanWellBeingIndices	
Nights spent at tourist accommodation establishments in coastal areas	nightsSpentAtTouristAccommodationEstab lishmentsInCoastalAreas	
Production from aquaculture excluding hatcheries and nurseries from 2008 onwards	productionFromAquacultureExcludingHatc heriesAndNurseriesFrom2008onwards	
Annual unemplyment figures	annualUnemplymentFigures	
Total fisheries production (Med and Black Sea)	totalFisheriesProduction(MedAndBlackSea)	
Total fishing catches (Med and Black Sea)	totalFishingCatches(MedAndBlackSea)	
Gross weight of goods handled in ports	grossWeightOfGoodsHandledInPorts	

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: EconomicInfo (OC)

Extensibility: none

Note: none

### GeneralSourceMethodValue\_v3

Type: Code Value Domain

Description: What are the methods that have been used in the sources for compiling the information about the elevation objects

Value	Code	Definition
Collection examination	collectionExamination	Data collected from examinations of collections (INSPIRE Directive, r4618-ir)
Grid mapping	gridMapping	Data observations collected by systematic surveys in grid cells (INSPIRE Directive, r4618-ir)
Line sampling	lineSampling	Data collected by systematic surveys along linear transects (INSPIRE Directive, r4618-ir)
Literature examination	literatureExamination	Data collected from literature examinations like printed maps, tables (INSPIRE Directive, r4618-ir)
Prediction modeling	predictionModeling	Data from prediction modeling
Random observation	randomObservation	Data collected by randomly distributed (INSPIRE Directive, r4618-ir)collection/observation sites randomly outside a systematic survey (INSPIRE Directive, r4618-ir)
Remote sensing observation	remoteSensingObservation	Data collected by the Remote Sensing Observation method
Statistical sampling	statisticalSampling	Data collected on locations selected by statistical sampling methods (INSPIRE Directive, r4618-ir)

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

Used in: SourceMethodType (OC)

Extensibility: yes

Note 1: none

### PartyRoleValue\_v3

Type: Code Value Domain

Description: Roles of parties related to or responsible for a resource (INSPIRE Directive, r4618-ir)

Value	Code	Definition
Author	author	Author of the data (INSPIRE Directive, r4618-ir)
Custodian	custodian	Guardian or keeper responsible for maintaining data (INSPIRE Directive, r4618-ir)
Distributor	distributor	Person or organisation who distributes the data (INSPIRE Directive, r4618-ir)
Originator	originator	Responsible party who created the dataset or metadata (INSPIRE Directive, r4618-ir)
Owner	owner	Person who owns the data (INSPIRE Directive, r4618-ir)
Point of contact	pointOfContact	Responsible party who can be contacted for acquiring knowledge about or acquisition of the data (INSPIRE Directive, r4618-ir)
Principal investigator	principallInvestigator	Key person responsible for gathering information and conducting research (INSPIRE Directive, r4618-ir)
Processor	processor	Responsible party who has processed the data in a manner in which data has been modified (INSPIRE Directive, r4618-ir)

		ir)
Publisher	publisher	Responsible party who published the data (INSPIRE Directive, r4618-ir)
Resource provider	resourceProvider	Party that supplies the data (INSPIRE Directive, r4618-ir)
User	user	Person who uses the data (INSPIRE Directive, r4618-ir)

Created: 28/05/2015

Modified: none

Author: CNR-ISMAR

State: approved

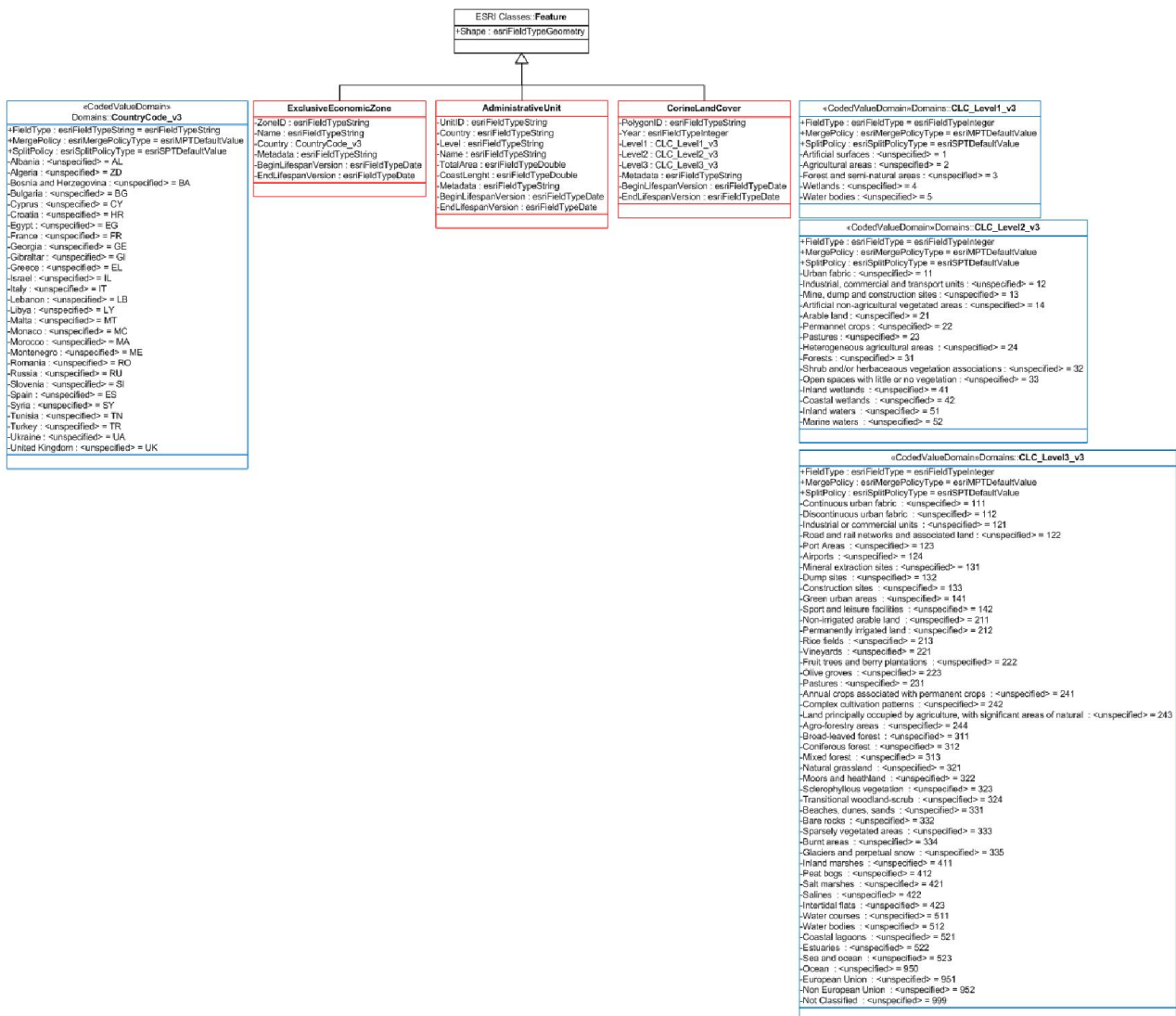
Used in: RelatedParty (OC)

Extensibility: yes

Note 1: none

# Annex 3 –UML diagram

## Feature classes

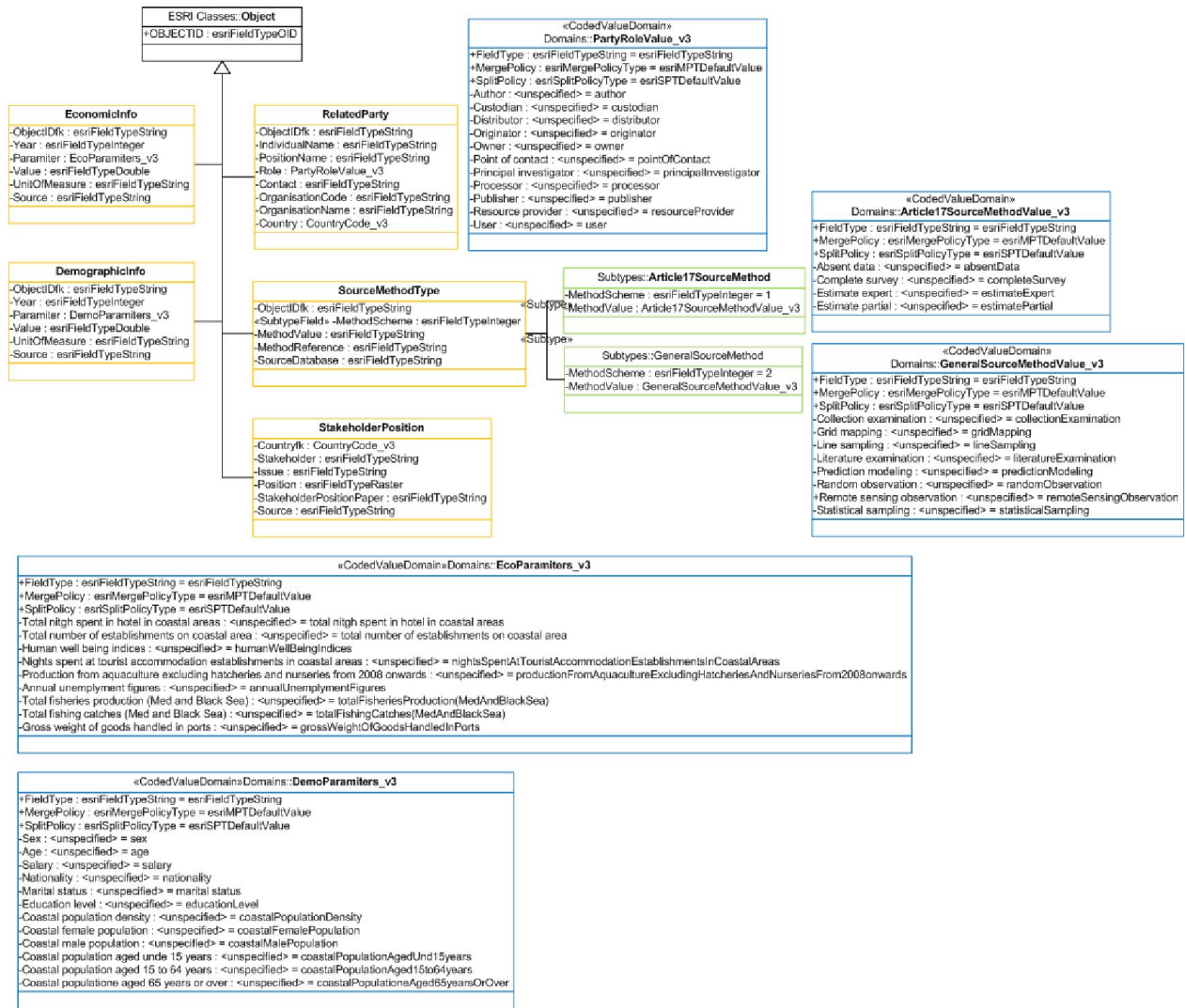


Feature Class (abstract): brown

Feature Class: red

Domain: blue

# Object classes

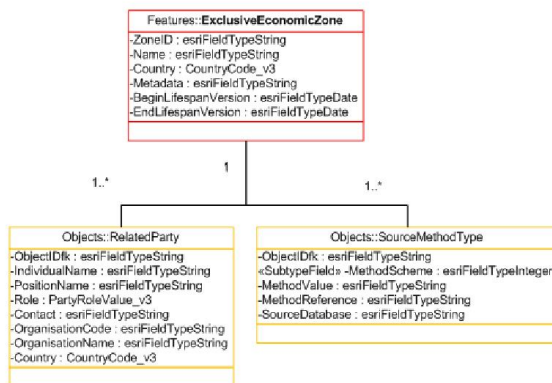
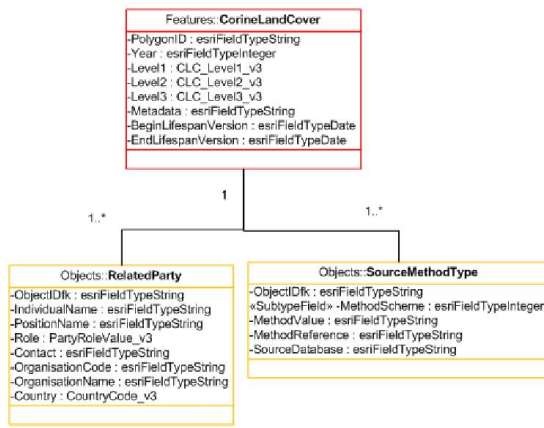
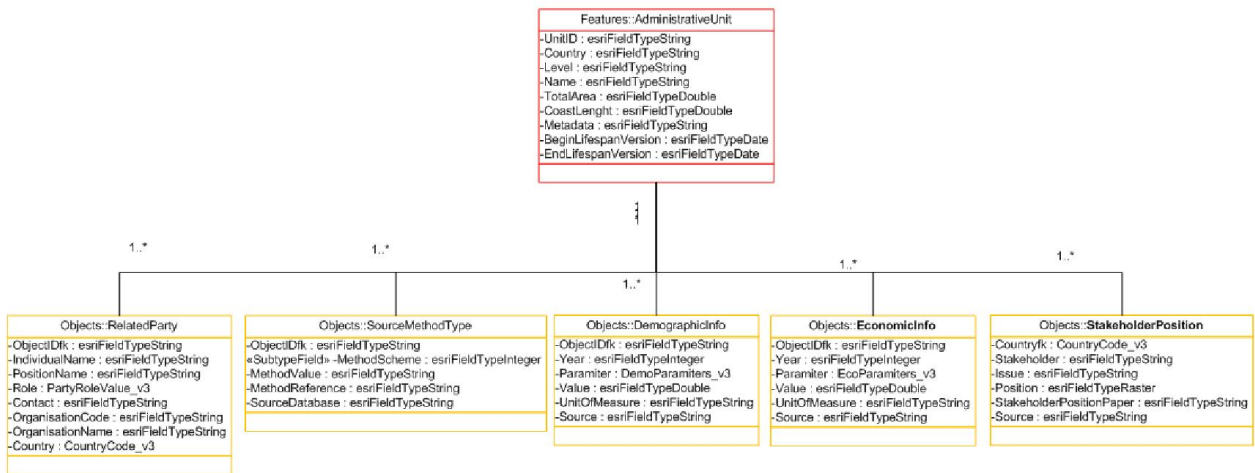


Object Class: orange

Subtype: green

Domain: blue

## Relationship classes



Feature Class: red  
Object Class: orange

**Annex 4 – Layer visualization**