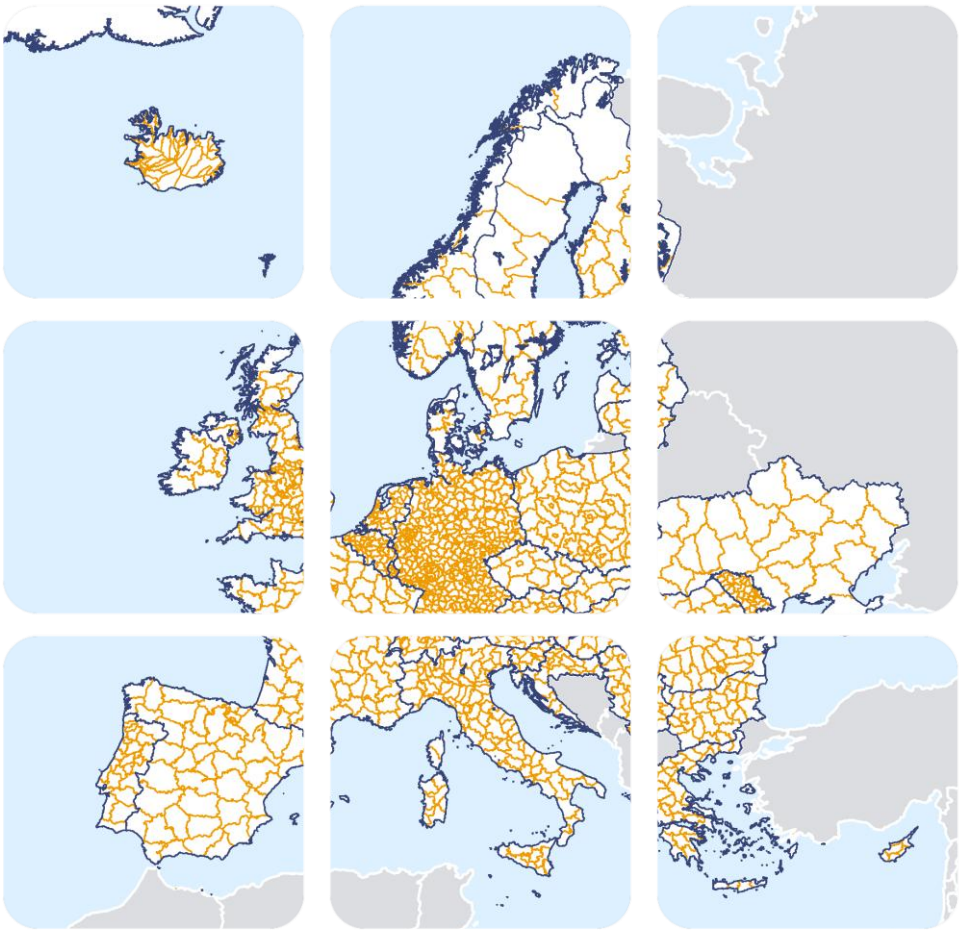
EuroBoundaryMap
Data product specification
Refers to EBM v5.0 product



Change history

Version	*Date*	*Changes by*
3.1	12/2009	Derived from *EuroBoundaryMap_v30_Specification* and improved according to ISO 19131 by IN
4.0	01/2010	Creation of final version *EuroBoundaryMap_v40_Specification* after updating and reviewing of *EuroBoundaryMap_v31_Specification* by IN
4.1	03/2010	Update of the specification referring to the data request to EBM producers (NMCAs)
5.0	12/2010	Creation of final version *EuroBoundaryMap_v50_Specification* after updating and reviewing of *EuroBoundayMap_v4.1_Specification* by MB and IN

Contents

1 Scope

This document defines the content and structure of EuroGeographics reference data base of administrative and statistical units and regions covering Europe. The product defined is referred to as EuroBoundaryMap. It is seamless and harmonised data continuously maintained by the National Mapping and Cadastral Agencies, members of EuroGeographics.

2 Overview

2.1 Name and acronyms

The name of the specified product (version) is EuroBoundaryMap v5.0 (EBM v5.0).

2.2 Information about the creation of the specification

This document has been designed according to ISO 19131 to provide you with all the information needed to use the EuroBoundaryMap product.

Document title:	EuroBoundaryMap_v50_Specification
Topic category:	003 – boundaries (Administrative regions, vector data)
Reference date:	2010-12-20
Responsible party:	EuroGeographics, BKG, Germany
Language:	English
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We have checked this document before issuing it, and every effort has been made to ensure that the contents are accurate. If you find an error, omission, or have a suggestion about how it can be improved, please contact EuroGeographics at the address shown below.

If you have problems using EuroBoundaryMap or any questions related to the dataset or its use please contact EuroGeographics or BKG directly:

EuroGeographics's address is:

EuroGeographics
rue du Nord 76 Noordstraat 76

1000 Brussels
Belgium

Telephone: +32 484 663 345

E-mail: dave.lovell@eurogeographics.org

Web: www.EuroGeographics.org

EuroBoundaryMap Product Manager's address is:

Federal Agency for Cartography and Geodesy
Bundesamt für Kartographie und Geodäsie (BKG)
Karl-Rothe-Strasse 10-14
D-04105 Leipzig
Germany

Telephone: +49 341 5634 340
Facsimile: +49341 5634 415

E-mail: ingrid.naumann@bkg.bund.de

Web: www.bkg.bund.de

2.3 Normative references

ISO 19113: Geographic Information – Quality principles

ISO 19115: Geographic Information – Metadata

ISO 19131: Geographic Information – Data product specifications

ISO 19138: Geographic Information – Data quality measures

ISO 3166, Codes for the Representation of Names of Countries

ISO 639-2/B 3 character Language Code

2.4 Terms and definitions

Terms and definitions necessary for understanding this document are defined in ISO 19131, Geographic Information – Data product specifications.

2.5 Abbreviations

BKG	Bundesamt für Kartographie und Geodäsie (Germany)
EuroGeographics	Association representing nearly all European National Mapping and Cadastral Agencies (NMCAs)
Eurostat	Statistical Office of the European Communities
GISCO	Geographic Information System of the European Commission
EBM	EuroBoundaryMap (product of EuroGeographics)
EC	European Commission
EU	European Union
LAU	Local Administrative Unit
NMCA	National Mapping and Cadastral Agencies
NUTS	Nomenclature of Territorial Units for Statistics
SHN	Strictly hierarchical built codes (defined by BKG/EuroGeographics) being European-wide unique identifiers for administrative units
UNCLOS	United Nations Convention on the Law of the Sea (10 December 1982)

2.6 Informal description of the data product

2.6.1 Content and purpose

EuroBoundaryMap is the European reference database of administrative units and boundaries established within the framework of **EuroGeographics**. The dataset is compiled from data supplied by European **National Mapping and Cadastral Agencies (NMCAs)** and harmonized by means of a uniform specification developed and continuously improved according to user needs by **Bundesamt für Kartographie und Geodäsie (BKG)**.

The present EuroBoundaryMap product contains the administrative units of all national administrative levels, their names and unique codes of 39 European states according to the administrative situation as it was on **1st January 2010** for an application scale of 1:100 000. The database is including relations between the European-wide unique identifiers (SHN) of administrative units on the lowest level for all 27 EU countries and their corresponding statistical codes (LAU2/LAU1) as defined by the National Statistical Institutes and also to the corresponding codes of the territorial units for statistics (NUTS) as defined in the framework of the Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003, maintained and published by Eurostat. Therefore EuroBoundaryMap makes it possible to connect detailed and up-to-date data of administrative regions to European thematic/statistical information.

The product **EBM v5.0** is a full update of all countries. Different product types (seamless FullEurope, regions, country by country) are deliverable as ESRI geodatabase, in Shape- or MapInfo-format. Names of administrative units and levels are stored with Unicode character set as well as standard ASCII. Considering the user requirements it can also be distinguished between land and water parts of administrative units within EuroBoundaryMap.

A new solution for **territorial sea** areas will be introduced in EBM v5.0. Up to EBM v4.0, only those territorial waters assigned to administrative units on lowest national level were included. With this new EBM update it is possible to include also territorial waters, which are directly administered by the national government. The definition of the territorial sea is strictly following the United Nations Convention on the Law of the Sea. All territorial sea areas are attributed as coastal waters. Refer to *EuroBoundaryMap_v50_Technical_Guide.pdf* for further details.

This new update represents a market oriented and user specific enhancement of the EuroBoundaryMap product and supports the interoperability between the EuroBoundaryMap product and various applications based on LAU and NUTS codes, which was a strong requirement of many customers.

2.6.2 Spatial and temporal extent

EuroBoundaryMap is the reference data of administrative and statistical regions at scale 1:100 000, that covers Europe and refers to the administrative situation as it was in each country at 1 January 2010 (reference date).

2.6.3 Data sources and maintenance

The source data, delivered by National Mapping and Cadastre Agencies, Members of EuroGeographics are of best available geometric and semantic quality produced according to the national specifications and quality control processes. Data required by EuroGeographics for maintenance of EuroBoundaryMap product are mainly derived from the national sources, and processed by the NMCAs to meet the specifications set up for the EBM product. EuroGeographics has made every effort to ensure that data supplied are free from errors and omissions.

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3 Specification scopes

3.1 Coverage and extent

EuroBoundaryMap provides a European geographic database for administrative and statistical regions for applications at 1:100 000 scale. This reference dataset covers Europe, is seamless and harmonised and continuously maintained by National Mapping and Cadastral Agencies of Europe. The data base includes:

- Geometry of all European administrative units from most detailed local level to the country level
- Names (Unicode-UTF8 and ASCII) and unique codes of all European administrative units on each national level based on the national nomenclatures and representing the national administrative hierarchy
- Names and unique codes for all administrative levels of Europe and the relation between them
- Linkage to corresponding LAU- and NUTS-codes for all local administrative units of the 27 EU countries
- Geometry, names and codes of each national administrative level and the derived national LAU1-, LAU2-, NUTS1-, NUTS2- and NUTS3-regions for the 27 EU countries
- Attributes allowing to differ between land and water parts of administrative units

The definition of administrative boundaries with regards to sea and inland waters differs from country to country. In some countries the administrative areas extend into the sea. In some cases the sea boundary is not defined or is defined to a different precision than the other administrative boundaries. The TAA (type of administrative area) attribute has been introduced to enable the users to distinguish between and select water and land parts of administrative units.

EuroBoundaryMap reference data is delivered as individual country files as well as a seamless and consistent full Europe database. The term consistent refers to the contents, to the structure, to geo-referencing, and time referencing of the data. The term seamless means that there are no gaps or overlaps between polygons initially derived from different sources.

3.2 Level description

The hierarchy level (MD_ScopeCode) of EuroBoundaryMap product is 005 (see B.5.2.5 of ISO 19115 and EuroBoundaryMap v5.0 Metadata). Metadata is provided for the EBM v5.0 (FullEurope) product as well as for each national contribution.

4 Data product identification

4.1 Title and purpose

The title of specified data product (version) is EuroBoundaryMap v5.0 (EBM v5.0).

EuroBoundaryMap provides a European geographic database for administrative and statistical regions that will be maintained at the source level by the National Mapping and Cadastral Agencies (NMCAs). EuroGeographics is providing harmonized access conditions for this geographic information within the framework of EuroGeographics. EBM (1:100.000) offers the combined strength of detailed European administrative units and the linkage to corresponding LAU- and NUTS-codes.

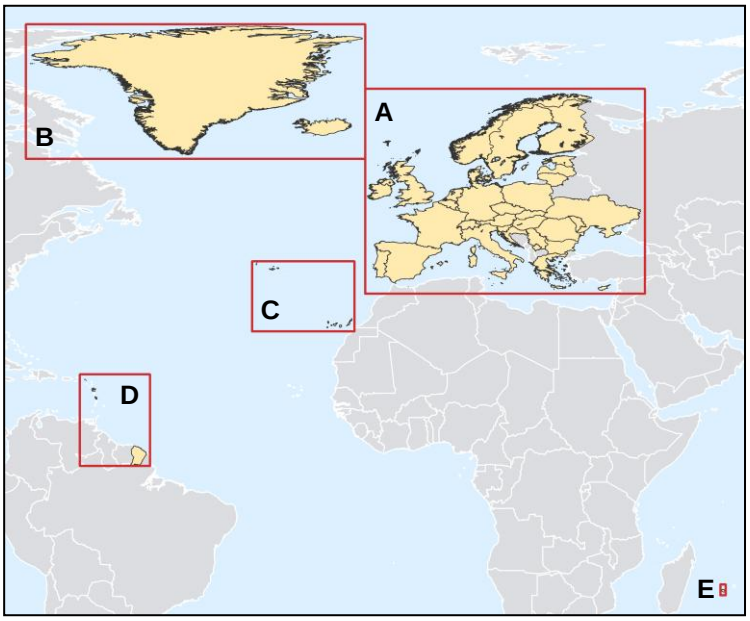
Especially this connection to the NUTS codes and to the national (statistical) LAU1- and LAU2-codes for every individual administrative unit at local level is a market oriented and user specific enhancement of EuroBoundaryMap. The EuroBoundaryMap reference data is strong in applications like referencing statistical cross border data, linking (geo-) marketing and market analysis, asset management, geo-referencing demographic analysis, thematic planning and many others

The main benefits are:

- Sources are official, updated national administrative data,
- Seamless database with GIS ready geometry,
- Unique data model implemented for all countries,
- Linkage to the NUTS codes as published and maintained by Eurostat,
- Metadata available for all national contributions,
- Maintenance and technical support assured,
- Single licensing framework for 39 incorporated countries.

4.2 Geographic description

EBM is covering all 27 EU countries, some EU candidate countries, all 4 EFTA countries and other European countries. The geographic extent of EuroBoundaryMap v5.0 can be split into five geographic bounding boxes:



A – Core Europe (see figure below)

B – Iceland, Greenland (part of Denmark)

C – Canary Islands (part of Spain), Azores and Madeira (part of Portugal)

D – French overseas territories: Guadeloupe, French Guiana, Martinique, Saint-Barthélemy, Saint-Martin

E – French overseas territory: Reunion

The following countries within the core European extent are included:

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark (including Faeroe Islands), Estonia, Finland, France (including Monaco), Germany, Great Britain, Greece, Hungary, Ireland, Italy (including San Marino and Vatican), Kosovo, Latvia, Lithuania, Luxembourg, Malta, Moldova, The Netherlands, Northern Ireland, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain (including Andorra and Gibraltar), Sweden, Switzerland (including Liechtenstein), Ukraine.

The extent of some countries is including the territorial sea areas (displayed dark blue in the figure).

4.3 Spatial resolution

The EuroBoundaryMap v5.0 product provides the geometry, names and codes for each administrative unit of all national administrative hierarchies in Europe, i.e. data from most detailed local to country level.

For processing of the data the following tolerances have been applied:

- Minimum distance separating all nodes and vertices of all lines (weed and fuzzy tolerance) is 5 meters. Coordinates of nodes or vertices within 5 m are considered equal.
- Minimum length of linear features is 30 meters.
- Minimum size of polygon features is in general 4 ha. Deviations are only allowed:
  - For administrative units, where the main area is smaller 4 ha,
  - For small islands or exclaves which are of major importance for the national territory.

5 Data content and structure

5.1 Feature-based data

The feature catalogue is harmonized with other EuroGeographics products and contains the definitions and descriptions of the feature types and feature attributes. Feature and attribute coding structure refers to *ISO/TC211/19126 Geographic Information containing the profiles for feature data dictionary registers and feature catalogue registers.*

The EuroBoundaryMap vector data model is based on the ISO standard, which adheres to the geo-relational data model. Feature are abstractions of real world phenomena (ISO 19110), such as a lake, or they are abstract items such as boundaries. A feature attribute is a descriptive characteristic of a feature (for instance name and code of an administrative unit). Features may be either of point, line, area or text type. The spatial extent of features is described in terms of isolated or connected node, edge and face elements. These primitive elements carry positional attributes.

Area feature – A geographic entity that encloses a region. EBM is including basically administrative units as area features.

Edge – A one-dimensional curve primitive joining two nodes used to represent the location of a linear feature and/or the borders of faces. Depending upon the level of topology, edges may be topologically linked to nodes, edges, and faces. Edges are located by an ordered collection of two or more coordinate pairs.

Face – A region enclosed by an edge or a set of edges. Faces are topologically linked to their surrounding edges as well as to the other faces that surround them. Faces are always non-overlapping. For EBM administrative units are represented as single faces, however regions (see 5.2.5) are stored as multiple faces.

Feature – A geographic entity related in some way to the Earth's surface. A feature may be either of *Point*, *Line* or *Area* type.

Feature class – A set of features that shares a homogeneous set of attributes. A feature class consists of a set of tables that includes one or more primitive tables and one or more attribute tables. A feature class has the same columns of attribute information for each feature.

Line feature – A geographic entity that defines a linear (one-dimensional) structure; for example boundary lines.

Node – A zero-dimensional geometric primitive that is composed of a pair of coordinates. There are two types of nodes: isolated nodes and connected nodes. Only one node can occupy a single geographic location.

Point feature – A geographic entity that defines a zero-dimensional location, for example the reference point of each administrative unit (main area).

The following attribute values are used for explaining missing attribution:

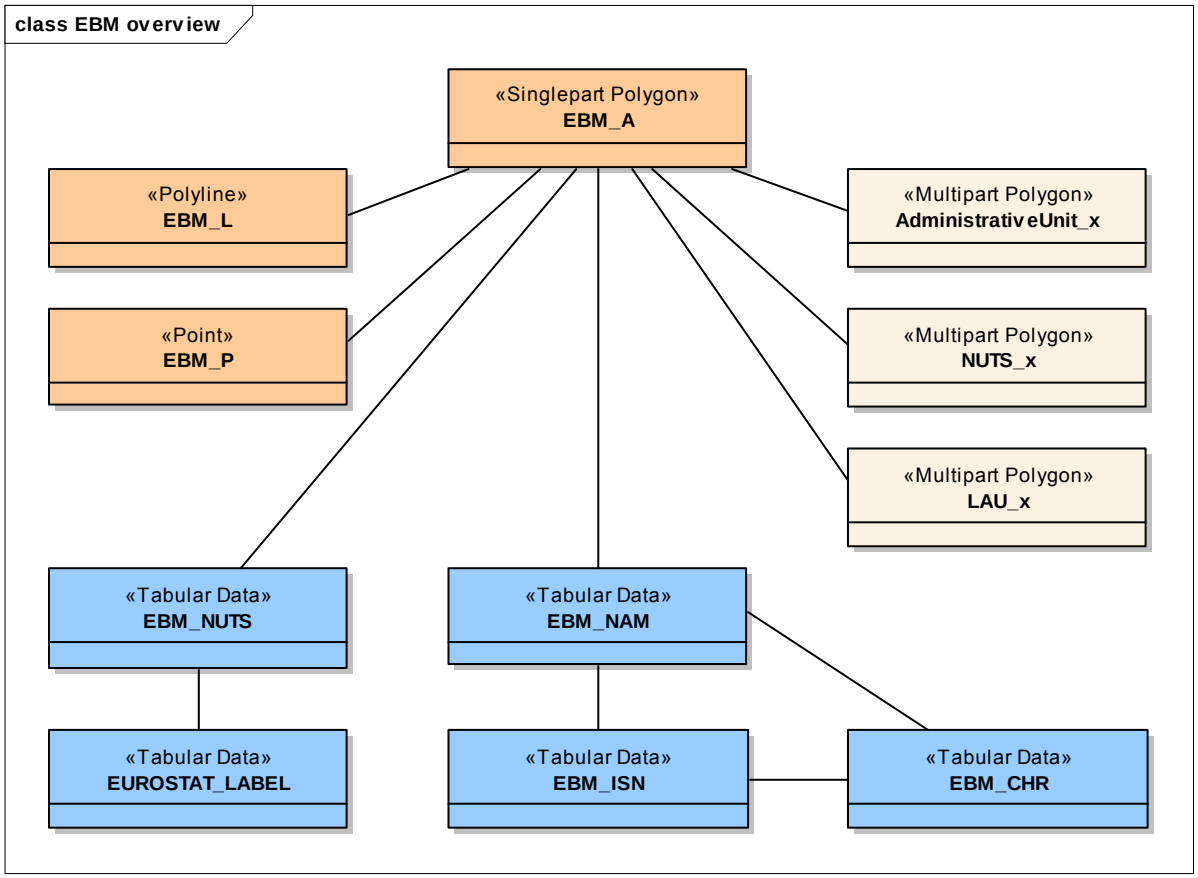
Attribute type	Unknown	Unpopulated	Not applicable
Text	UNK	N_P	N_A
Integer, coded	0	997	998
Integer, actual value	-29999	-29997	-29998

Unknown – This value is used when it is not possible to determine the value of an attribute for an object. Objects with missing attribute information have values 'UNK' or 0 and other objects have actual values or classification code values to indicate the classification. 'Unknown' is used normally for a single attribute value of individual objects in a layer.

Not applicable – This value is used in the case when the attribute is defined to be used for a certain feature but there are objects for which the attribute values do not apply. For example: if the geographical name of an administrative unit is unknown, then a transliteration to ASCII and the language code is not applicable

Unpopulated – This value is used when this attribute information exists but data producer don't have this attribute information and has left the attribute field empty. Values 'N_P' or 997 indicate an empty attribute field. 'Unpopulated' should not be confuse

An overview of the EBM data model is given in the following figure, the detailed data model is attached in Annex A. The main feature is EBM_A containing the single-part polygons. Attributive data is stored in tables, which are linked by the primary key SHN. Boundary lines (EBM_L) and label points (EBM_P) are associated with correct topology. The EBM geo database contains also multi-part polygons for all national administrative levels of all countries and the derived multi-part polygons for the LAU1-, LAU2-, NUTS1-, NUTS2- and NUTS3-regions of EU27.



5.2 Feature catalogue

5.2.1 Feature class Administrative areas

Definition: Area controlled by an administrative authority. Administrative areas are the basic layer covering the whole territory of a country. All administrative units can be created from these administrative areas. For the most countries, the feature class administrative areas is equivalent with the feature class administrative units on lowest level.

Feature class: **EBM_A**, country separated version: **XX_A** (XX is defined by two-character country code, see attribute ICC)

Feature type: Area

Primitive type: Face (single)

Portrayal criteria: Each administrative unit consists of one main area or occasionally of one main area and branch areas (exclaves), whereas it has to be distinguished between land and (coastal) water parts of administrative units.

Attributes:

ICC

Description: Two-character country code according to ISO 3166
Exceptions:
- The data of Northern Ireland will be provided separately with own country code: ND (not ISO compliant).
- For dataset of Kosovo country code: KS will be used (not ISO compliant).

For detailed information about used codes see Annex B

Data type: Text (5 characters)

Domain: Coded value

Value/Code	*Value description*
FI	Finland (example)

SHN

Description: The **SHN** code corresponds in general to the national administrative code. The SHN attribute indicates the administrative unit to which the area belongs and is a strictly hierarchical built identifier (according to the number of levels of the national administrative hierarchy which differ from country to country, see the provided national lineage files for further details) for all administrative units on each administrative level. If the delivered codes were not consistent with the EBM specification (e.g. if they don't have hierarchical structure) EuroGeographics/BKG had to adjust these codes. By reason that the ISO 3166 country code (ICC) is part of the SHN code it can be used as a **unique identifier for all European administrative units**

Data type: Text (14 characters)

Domain: Actual value

Value/Code	*Value description*
FI621478	Finnish administrative unit *Mariehamn#Maarianhamina* (example)

TAA

Description: Type of the administrative area

Data type: Short integer

Domain: Coded value

Value/Code	*Value description*
1	Main area of administrative unit
3	Branch area of administrative unit (e.g. exclaves)
4	Special area (e.g. condominium, non-cadastre area, forest)
5	(Coastal) water area of administrative unit
7	Inland water, lakes
8	In dispute area

5.2.2 Feature class Label points

Definition: Reference point for the *main* area of an administrative unit, can be used for labelling purposes
Feature class: **EBM_P**, country separated version: **XX_P** (XX is defined by two-character country code, see attribute ICC)
Feature type: Point
Primitive type: Node
Portrayal criteria: Reference point located within the *main* area of an administrative unit

Attributes:

ICC

Description:	Two-character country code according to ISO 3166
Data type:	Text (2 characters)
Domain:	Coded value
Value/Code	*Value description*
FI	Finland (example)

SHN

Description:	Unique identifier of administrative unit
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
FI621478	Finnish administrative unit *Mariehamn#Maarianhamina* (example)

5.2.3 Feature class Administrative boundaries

Definition: A line of demarcation between administrative controlled areas
Feature class: **EBM_L**, country separated version: **XX_L** (XX is defined by two-character country code, see attribute ICC)
Feature type: Line
Primitive type: Edge
Portrayal criteria: Boundary of an entity controlled by an administrative authority. This entity can be composed of several areas. This feature type is used also to distinguish between land and coastal areas of an administrative unit.

Attributes:

ICC

Description:	Two-character country code according to ISO 3166 International boundaries store the country code of both neighbouring countries in alphabetical order delimited by #.
Data type:	Text (8 characters)
Domain:	Coded value
Value/Code	*Value description*
FI	Finland (example)
FI#SE	International boundary between Finland and Sweden (example)

USE

Description:	Level of the boundary in the national administrative hierarchy
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
1	1st order (country level)
2	2nd order
3	3rd order
4	4th order
5	5th order
6	6th order
998	Not applicable: used for coastlines without administrative meaning (MOL=2) or international demarcations which are not referred to as international boundaries.

BST

Description:	Boundary status type; this attribute is maintained mainly for international boundaries
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
1	Definite
2	Indefinite
3	In dispute
998	Not applicable: used for coastlines without administrative meaning (MOL=2).

MOL

Description:	Meaning of Line
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
1	Boundary line and coastline
2	Coastline without administrative meaning: used for lines between coastal water area and land area of the same administrative unit
7	Boundary line on land
9	Boundary line on water
3	Fictitious line used as a boundary (closing gaps)

5.2.4 Related attribute tables

Additional attribution (e.g. names of administrative units) is stored in related attribute tables. The **EBM_NAM** and **EBM_NUTS** tables are linked to administrative areas via SHN codes. Relation is one-to-many: one record in the related table is connected to one or several administrative areas having the same SHN code. Whereas the NUTS tables refer only to the local administrative level (LAU1/LAU2) of EU27, the NAM tables contain also records referring to units on the upper administrative levels.

The table **EBM_ISN** is related to the EBM_NAM table via ISN code, containing the designation of hierarchical levels in the national administrative hierarchy. This table can be used to derive the unique SHN codes for the corresponding higher level administrative units from the SHN code of a lower level administrative unit. Beside that there are two additional tables: **EBM_CHR** is storing information about the languages used in EBM, **EUROSTAT_LABEL** is containing the names of national LAU- and NUTS-regions (for detailed information on linkages see 5.3).

5.2.4.1 Names of administrative units (NAM)

Definition: Names related to administrative units via SHN codes
Table name: **EBM_NAM**, country separated version: **XX_NAM** (XX is defined by two-character country code, see attribute ICC)
Portrayal criteria: All administrative areas from feature class EBM_A as well as all units on the upper administrative levels must have a corresponding record in EBM_NAM.

Attributes:

ICC

Description:	Two-character country code according to ISO 3166
Data type:	Text (2 characters)
Domain:	Coded value
Value/Code	*Value description*
DE	Germany (example)

SHN

Description:	Unique identifier of administrative unit
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
DE0970000000000	German administrative unit *Schwaben* (example)

RAU

Description:	The RAU code of an administrative unit corresponds to the SHN of the corresponding administrative unit where the residence of authority (capital) is located (i.e. RAU of Spain is equal to ES7228079, the SHN of Madrid)
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
DE09707429118	Residence of authority for the administrative unit SHN=DE097000000000' with NAMN='Schwaben' is located in the corresponding lower level unit SHN=DE097061000000' with NAMN='Augsburg', i.e. RAU of administrative unit with NAMN='Schwaben' is DE097061000000' (example)
UNK	Unknown
N_P	Not populated

USE

Description:	Level of administration in the national administrative hierarchy
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
1	1st order (country level)
2	2nd order
3	3rd order
4	4th order
5	5th order
6	6th order

ISN

Description:	Unique structure identifier which identifies a level of the national administrative hierarchy
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
2904	ISN code for the designation (DESN) *Término Municipal* (example)

NAMN

Description:	Geographical (official national) name of the administrative unit given in national characters (Unicode-UTF8). In case of more than one official language the names are delimited by # starting with the primary official name
Data type:	Text (80 characters)
Domain:	Actual value
Value/Code	*Value description*
Λευκωσία	(example from Cyprus)
Åland#Ahvenanmaa	(example from Finland)
UNK	Unknown

NAMA

Description:	Geographical name of the administrative unit (NAMN) transliterated in ASCII characters. In case of more than one official language the names are delimited by #
Data type:	Text (80 characters)
Domain:	Actual value
Value/Code	*Value description*
Lefkosia	Transliteration of Λευκωσία (Cyprus)
Aland#Ahvenanmaa	Transliteration of the Finnish example above
N_A	Not applicable (for NAMN=UNK)

NLN

Description:	ISO 639-2/B 3-char language code of the geographical name (NAMN). In case of more than one official language the codes are delimited by #
Data type:	Text (11 characters)
Domain:	Coded value
Value/Code	*Value description*
GRE	Greek (example)
SWE#FIN	Primary name Swedish, secondary name Finnish (example)
N_A	Not applicable (for NAMN=UNK)

5.2.4.2 Designations and relations between hierarchical levels (ISN)

Definition: Designations of hierarchical levels related to names of administrative units via ISN codes.

Table name: **EBM_ISN**, country separated version: **XX_ISN** (XX is defined by two-character country code, see attribute ICC).

Portrayal criteria: All names of administrative units from table EBM_NAM must have a corresponding record in EBM_ISN related by attribute ISN. All records in this related table must be related to at least one record in EBM_NAM.

Attributes:

ICC

Description: Two-character country code according to ISO 3166
Data type: Text (2 characters)
Domain: Coded value

Value/Code	*Value description*
ES	Spain (example)

ISN

Description: Unique structure identifier which identifies a level of the national hierarchy
Data type: Short integer
Domain: Coded value

Value/Code	*Value description*
2902	Structure identifier for designation (DESN) *Communidad autónoma* (example)

DESN

Description: Designation of the national administrative hierarchy level given in national characters (Unicode-UTF8). In case of more than one official language the designations are delimited by #
Data type: Text (80 characters)
Domain: Actual value

Value/Code	*Value description*
Communidad autónoma	(example)

DESA

Description: Designation of the national administrative hierarchy level transliterated in ASCII characters. In case of more than one official language the designations are delimited by #
Data type: Text (80 characters)
Domain: Actual value

Value/Code	*Value description*
Communidad autonoma	Transliteration of *Communidad autónoma* (example)

NLN

Description: ISO 639-2/B 3-character language code of the designation (DESN). In case of more than one official language the codes are delimited by #.
Data type: Text (11 characters)
Domain: Coded value

Value/Code	*Value description*
SPA	Spanish (example)

ISS

Description:	Substructure identifier which points to the ISN attribute of another record in this table identifying the hierarchy level immediately below the current
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
2903	*Communidad autónoma* (ISN=2902) may consist of *Provincias* (ISN=2903) (example)
998	Not applicable (if hierarchical unit is on lowest level)

SHI

Description:	Number of figures which must be removed from right of the SHN code and replaced with zeros to identify the corresponding upper level unit
Data type:	Short integer
Domain:	Actual value
Value/Code	*Value description*
3	Three figures from right side have to be replaced with zeros to get SHN of upper level unit (example)

5.2.4.3 Relation to LAU and NUTS classification (NUTS)

Definition:	Relationship between the SHN codes of administrative units on lowest national administrative level and corresponding statistical codes. Such statistical codes are LAU2 and LAU1 (maintained by the National Statistical Institutes) and NUTS codes published by Eurostat. The full linkage between administrative units and statistical codes is established only for EU countries.
Table name:	**EBM_NUTS**, country separated version: **XX_NUTS** (XX is defined by two-character country code, see attribute ICC)
Portrayal criteria:	All administrative units of EU countries from feature class EBM_A should have a corresponding record in EBM_NUTS. Exceptions are water areas (sea area or lakes larger than 400km^2) and all units where the relation to the NUTS coding is in discussion.

Attributes:

ICC

Description:	Two-character country code according to ISO 3166
Data type:	Text (2 characters)
Domain:	Coded value
Value/Code	*Value description*
FI	Finland (example)

SHN

Description:	Unique identifier of administrative unit
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
FI621771	Finnish administrative unit *Sund* at local level (example)

LAU2

Description:	Statistical code of local administrative units (LAU2) as defined by National Statistical Institutes
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
0368	LAU2 of Käina in Estonia (example)
UNK	Unknown
N_P	Not populated

LAU1

Description:	Statistical code of local administrative units (LAU1) as defined by National Statistical Institutes
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
0039	LAU1 code corresponding to LAU2=0368 (see example above)
UNK	Unknown
N_A	Not applicable (for some countries no LAU1 level is defined)

NUTS1

Description:	NUTS 1 code of territorial unit for statistics as published by Eurostat
Data type:	Text (5 characters)
Domain:	Actual value
Value/Code	*Value description*
EE0	Corresponding NUTS1 code to Käina (see example above)
UNK	Unknown

NUTS2

Description:	NUTS 2 code of territorial unit for statistics as published by Eurostat
Data type:	Text (5 characters)
Domain:	Actual value
Value/Code	*Value description*
EE00	Corresponding NUTS2 code to Käina (see example above)
UNK	Unknown

NUTS3

Description:	NUTS 3 code of territorial unit for statistics as published by Eurostat
Data type:	Text (5 characters)
Domain:	Actual value
Value/Code	*Value description*
EE004	Corresponding NUTS3 code to Käina (see example above)
UNK	Unknown

5.2.4.4 Names of national statistical regions

Definition: Names (labels) of NUTS and LAU regions as published by Eurostat.
Table name: **EUROSTAT_LABEL**
Portrayal criteria: Names of all national NUTS- and LAU-regions are included.
Attributes:

ICC

Description:	Two-character country code according to ISO 3166
Data type:	Text (2 characters)
Domain:	Coded value
Value/Code	*Value description*
ES	Spain (example)

LEVEL

Description:	LAU or NUTS level
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
1	NUTS1
2	NUTS2
3	NUTS3
4	LAU1
5	LAU2

CODE

Description:	Code of the NUTS or LAU region as published by Eurostat
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
AT112	NUTS3 (example from Austria)

LABEL

Description:	Name of the NUTS or LAU region as published by Eurostat
Data type:	Text (80 characters)
Domain:	Actual value
Value/Code	*Value description*
Nordburgenland	Name of the NUTS3 region (see example above)

5.2.4.5 National character sets (EBM_CHR)

Definition: Description of national character sets for each language used in EBM
Table name: **EBM_CHR**
Portrayal criteria: For every language all needed character sets are listed for exporting names to different data formats

Attributes:

NLN
Description: ISO 639-2/B 3-char language code
Data type: Text (3 characters)
Domain: Coded value

Value/Code	*Value description*
FIN	Finnish (example)

LNM
Description: Language name
Data type: Text (50 characters)
Domain: Actual value

Value/Code	*Value description*
Finnish	(example)

DESC
Description: Description of the character set
Data type: Text (50 characters)
Domain: Actual value

Value/Code	*Value description*
ISO 8859-1 character set (Latin 1) (example)	

5.2.5 Administrative units on higher hierarchical levels

In addition to the areas of administrative units at lowest national level of the feature class EBM_A (XX_A), also units on upper levels of the national hierarchy are included in the EuroBoundaryMap data base. These units are stored as multipart-features, which mean that all polygons with the same code build a single feature. The administrative units referring to the levels in administrative hierarchy contain core name attribution, but related tables have to be linked for full maintenance of all attributes.

Several administrative levels of a country may not cover the whole extend of the country. This is because some parts of the country may not be subdivided in all hierarchical levels. Even the units from the lowest national level may not cover the whole country. Refer to the standard feature class EBM_A (XX_A) in such cases (see also 5.2.1)

Definition: Administrative units referring to all levels of national administrative hierarchy
Feature class: **AdministrativeUnit_X** (whereas X is defined by the level of administration)
Feature type: Area
Primitive type: Face (multiple)
Portrayal criteria:

Attributes:

ICC

Description:	Two-character country code according to ISO 3166
Data type:	Text (2 characters)
Domain:	Coded value
Value/Code	*Value description*
AT	Austria (example)

SHN

Description:	Unique code of administrative unit
Data type:	Text (14 characters)
Domain:	Actual value
Value/Code	*Value description*
AT31845	Austrian administrative unit at 4th administrative level (example)

ISN

Description:	Unique structure identifier which identifies a level of the national hierarchy
Data type:	Short integer
Domain:	Coded value
Value/Code	*Value description*
4105	Structure identifier for designation (DESN) *Gemeinde* (see example above)

NAMN

Description:	Geographical (official national) name, for full maintenance of names (attributes NAMA, NLN) join table EBM_NAM
Data type:	Text (80 characters)
Domain:	Actual value
Value/Code	*Value description*
Willendorf	(example from Austria, see above)
UNK	Unknown

DESN

Description:	Designation of the national administrative hierarchy level, for full maintenance of designations (attributes DESA, NLN) join table EBM_ISN
Data type:	Text (80 characters)
Domain:	Actual value
Value/Code	*Value description*
Gemeinde	(see example above)

5.2.6 Statistical regions

In addition to administrative units, EBM is containing also the statistical regions: NUTS 1 to 3 and LAU 1 to 2. The statistical regions are derived from the geometry on lowest level (EBM_A) combined with the table listing the LAU and NUTS codes (EBM_NUTS).

These units are stored as multipart-features, which mean that all polygons with the same code build a single feature. The names of the statistical regions are included as delivered by Eurostat.

LAU regions are defined only for EU countries. LAU regions should refer to the lowest administrative levels in the national hierarchy. For some countries LAU1 is not defined.

NUTS-regions are defined only for EU countries, statistical regions codes level 3 for EU candidate countries and EFTA countries. The differences between administrative units and NUTS-regions are explained in section 5.2.6.3.

5.2.6.1 LAU regions

Definition: Region derived according to LAU codes as defined by the National Statistical Institutes
Feature class: **LAU_X** (whereas X is defined by the level in the LAU hierarchy)
Feature type: Area
Primitive type: Face (multiple)
Portrayal criteria:

Attributes:

ICC

Description:	Two-character country code according to ISO 3166
Data type:	Text (2 characters)
Domain:	Coded value
Value/Code	*Value description*
AT	Austria (example)

LAU_CODE

Description:	National Unique code of LAU-region as published by Eurostat
Data type:	Text (5 characters)
Domain:	Actual value
Value/Code	*Value description*
10616	LAU2 (example of Austrai)

LAU_LABEL

Description:	Name of the LAU-region as published by Eurostat
Data type:	Text (80 characters)
Domain:	Actual value
Value/Code	*Value description*
Antau	Name of the LAU2=10616 (see example above)

5.2.6.2 NUTS regions

Definition: Region derived according to NUTS codes as published at http://ec.europa.eu/eurostat/ramon/nuts/overview_maps_de
Feature class: **NUTS_X** (whereas X is defined by the level in the NUTS hierarchy)
Feature type: Area
Primitive type: Face (multiple)
Portrayal criteria:

Attributes:

ICC

Description:	Two-character country code according to ISO 3166
Data type:	Text (2 characters)
Domain:	Coded value
Value/Code	*Value description*
AT	Austria (example)

NUTS_CODE

Description:	Unique code of NUTS-region as published by Eurostat
Data type:	Text (5 characters)
Domain:	Actual value
Value/Code	*Value description*
AT33	example from Austria

NUTS_LABEL

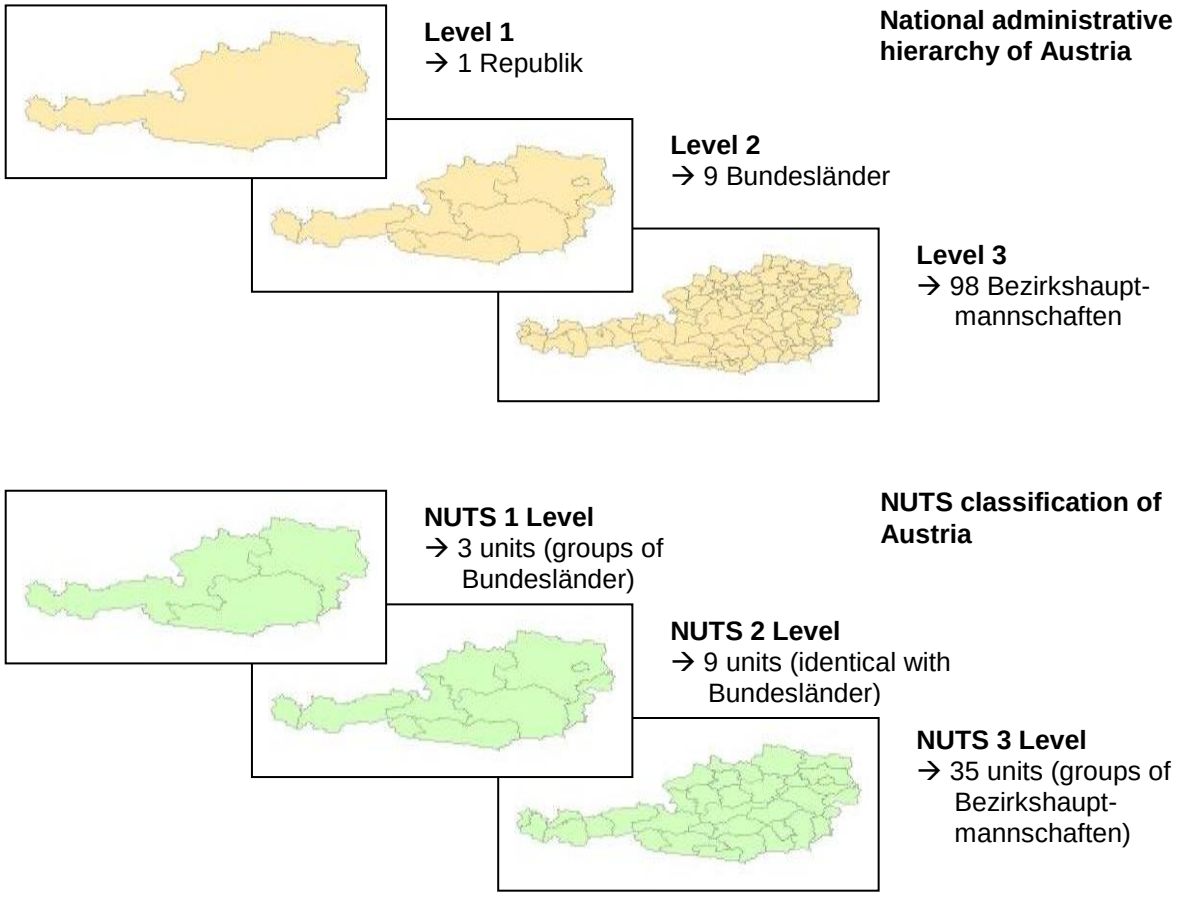
Description:	Name of the NUTS-region as published by Eurostat
Data type:	Text (80 characters)
Domain:	Actual value
Value/Code	*Value description*
Tirol	(see example above)

5.2.6.3 Differences between administrative units and NUTS regions

The Nomenclature of Territorial Units for Statistics (NUTS) was established in the framework of the Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 for EU countries. A particularly important goal of the regulation is to manage the inevitable process of change in the administrative structures of member states in the smoothest possible way, so as to minimise the impact of such changes on the availability and comparability of regional statistics. The NUTS nomenclature serves as a reference:

- For the collection, development and harmonisation of Community regional statistics,
- For the socio-economic analyses of the regions,
- For the framing of Community regional policies for instance for the purposes of appraisal of eligibility for aid from the Structural Funds.

However, not for all EU countries a complete conformance can be found between the NUTS1, NUTS2 and NUTS3 levels and corresponding national administrative hierarchical levels. Often the NUTS classification differs from the national administrative hierarchy, please see for example Austria:



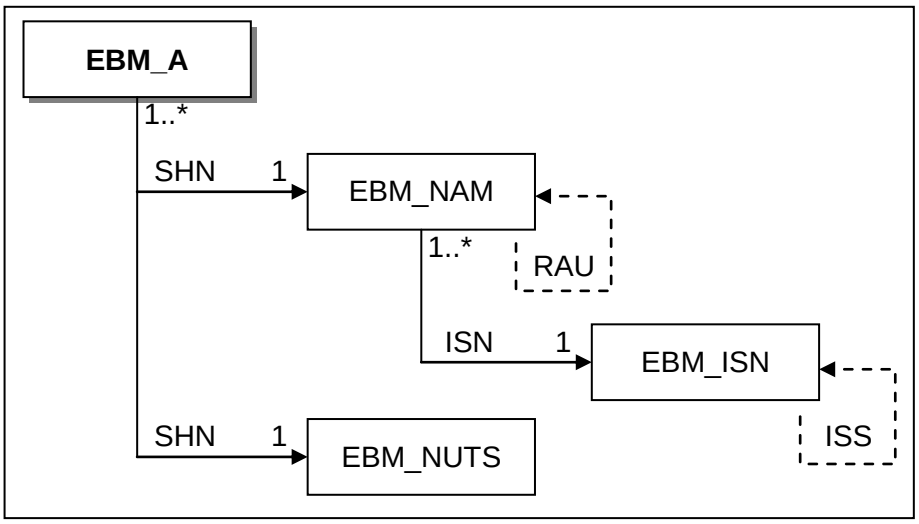
5.3 Use of EuroBoundaryMap product

EuroBoundaryMap can be used with any computer platform from a PC to a mainframe. The hardware requirements are generally the same as for managing any other geographic vector data.

EuroBoundaryMap standard delivery format is ESRI Geodatabase – without any user interface for displaying or analysing it. But an ArcMap document is provided for the purpose of displaying the content of EBM geo database. Whatever you want to do with the data itself, you need to have appropriate software. EuroBoundaryMap can be used directly with ESRI GIS-System, but may also be imported into other software packages (for instance via FME).

If you require EuroBoundaryMap data in a different format, please contact EuroGeographics. Please notice that the full usage of the database cannot be guaranteed in all geo data formats. In any case you are advised to make a back-up copy of the data delivered. Written notification of any deficiency in the data or damage to the goods must be given to EuroGeographics.

If EBM is delivered as ESRI Personal Geodatabase it is containing relationship classes. However, for proper linkage the polygon features (EBM_A) have to be joined to the NAM and NUTS tables via SHN codes, and via ISN codes to ISN table (see picture below).



Records in the related tables are unique, and all the records should be related to at least one source object. But keep in mind that the NAM table is containing also records referring to units on the upper administrative levels.

The RAU code in the NAM table corresponds to the SHN code of the residence of the authority of an administrative unit. This additional information (which is only available for a number of the countries) is in fact a link to the table itself or to EBM_A.

The ISS code (Substructure identifier) in the ISN table points to the ISN attribute of another record in this table identifying the hierarchy level immediately below the current. The number of levels in the ISN table depends on the national administrative hierarchy and differs from country to country. In this way it's possible to derive the geometry of all upper administrative units from EBM_A. Attribute SHI is indicating how the SHN codes of upper levels can be created by replacing a number of digits from right side with zero. Please see an example from Italy:

ISN table			
ISN	**DESN**	**ISS**	**SHI**
1701	Repubblica	1702	9
1702	Regione	1703	6
1703	Provincia	1704	3
1704	Commune	998	0

Example in NAM table	
SHN	**NAMN**
IT000000000	Italia
IT312000000	Lazio
IT312056000	Viterbo
IT312056036	Montefiascone

The linkage to statistical LAU- and NUTS-codes defined in the NUTS table has been established based on a matching between the SHN codes of the EBM v5.0 product and the LAU2-codes, defined by National Statistical Agencies and published by Eurostat. This matching is only available for EU countries. In some cases the correct matching still has to be clarified.

6 Reference systems

6.1 Spatial reference system

EuroBoundaryMap data are stored in two-dimensional geographical coordinates, degrees (longitude, latitude) with decimal fraction. The spatial reference system is ETRS89 (WGS84) with ellipsoid GRS 80. Difference between ETRS89 and WGS84 coordinate systems is negligible, moreover because of the integration of over sea territories outside of Europe we preferred the WGS84 coordination system. No map projection is applied. To be able to use EuroBoundaryMap effectively with other datasets, you will need to ensure that the data have the same spatial (and temporal!) reference.

The positional accuracy describes on how the coordinates of the feature agree with their real world values. The degree of accuracy depends first of all on the positional accuracy of the source dataset, but also on errors due to conversion processes or errors due to the manipulation processes. More detailed information country by country is included in the metadata.

6.2 Temporal reference system

Following ISO 19108, the Gregorian calendar is used as temporal reference system for the EuroBoundaryMap v5.0 product.

7 Data quality

Information on the quality of geographic/administrative/statistical data allows a data producer or vendor to validate how well a dataset meets the criteria set forth in its product specification and assists a data user in determining a product's ability to satisfy the requirements for their particular application.

The International Standard 19113 establishes the principles for describing the quality of geographic/administrative data and specifies components for reporting quality information.

The EuroBoundaryMap data base is compiled from national administrative datasets provided by National Mapping and Cadastral Agencies. The source data are of the best available quality which is described in more detail in the provided metadata country by country. The contributions have been transformed into a uniform structure, have been line-filtered (if necessary) to a uniform resolution, have been edge matched at international boundaries and finally the quality has been checked with regard to the defined specification (please see also *EBM_v50_QualityReport.pdf*).

For the lineage of national contributions please see the *XX_Lineage_EBM_v50.pdf*. These files have been collected by BKG from all data producers – containing essential elements of international standards for description of data quality (source, producer organization, reference date and date of production, accuracy, completeness, consistency). Additionally this manual also refers to quantitative and non-quantitative quality qualifiers. BKG maintains also an internal documentation on the whole production process for each version (date of delivery, results of pre-processing, validation reports and error management).

BKG, the project coordinator of EuroGeographics EuroBoundaryMap product carried out a three-stage quality check procedure:

- BKG had to check that the delivered national contributions are consistent with the required specification,
- BKG had to develop and implement routines to check the quality of the final reference data,
- BKG sent the harmonized national contributions to each NMA for official quality check and is asking for confirmation.

7.1 Completeness

For all integrated countries (see 4.2) features and attributes were captured according to the specification. For further details on completeness of features, feature classes and tables please see *EBM_v50_QualityReport.pdf*

7.2 Logical consistency

The adherence to rules of the conceptual schema and to the value domains is given as well as the format and topological consistency, as all data is stored in database templates which were created based on the EBM specification. This is including the general structure of the datasets, the compliance of feature attributes with attribute domains and the linkage between feature classes and tables.

The basic topological relationships for EuroBoundaryMap reference data are set up at the level of the geometric primitives, the faces, edges and nodes. For all polygons of administrative areas (EBM_A) the compliance with the following topological rules can be guaranteed:

- Polygons must not overlap.
- Gaps between polygons are not allowed.
- Neighbouring polygons are sharing the same set of coordinates on their border. This is including all polygons on international borders.

All other features, like boundary lines (EBM_L), label points (EBM_P), AdministrativeUnit_X or the StatisticalRegions (LAU_X and NUTS_X), were derived from the polygons automatically. The topological consistency is given by default, additional checks are not needed.

7.3 Positional accuracy

Due to the fact that EuroBoundaryMap is compiled of national contributions, the positional accuracy is depending on the accuracy of the national source data.

EBM is intended to be used in map scale 1:100 000. For that scale a positional accuracy of about 50m is suitable. All data providers were asked to deliver their data with that value of accuracy. Some national datasets were derived from national large scale databases with a high positional accuracy of 10m or better. Nevertheless, all those data were generalized to get a harmonized EBM dataset. For further details on positional accuracy of national contributions please see *EBM_v50_QualityReport.pdf* or metadata of national contributions.

7.4 Thematic accuracy

Correctness of non-quantitative and quantitative attributes has been checked by BKG to ensure:

- Geometrical completeness for each integrated national administrative dataset,
- that national contributions are line-filtered to a uniform resolution and edge-matched at international boundaries,
- that names and unique codes of administrative units have been integrated on the basis of national terms and representing the national administrative hierarchy
- a unified coding system for all national administrative levels and the relations between them
- that it is possible to distinguish between land and water parts of administrative areas

Please see *EBM_v50_QualityReport.pdf* for further details.

7.5 Temporal accuracy

For the EuroBoundaryMap v5.0 product the national data generally refers to the administrative situation as it was on 1 January 2010 (see Annex C and *EBM_v50_QualityReport.pdf)*.

8 Data product delivery

The EuroBoundaryMap v5.0 product will be provided on DVD as standard in Geodatabase format but other formats also can be delivered on request. A Full Europe version, but also groups of countries or country by country are offered. For further details please see

http://www.eurogeographics.org/content/products-services-euroboundarymap-prices

EuroGeographics and the National Mapping and Cadastral Agencies contributing to this database have made every effort to ensure that data supplied are free from errors and omissions. We will remedy, as soon as reasonably practicable, errors and omissions notified to EuroGeographics or National Mapping and Cadastral Agencies in writing.

Neither EuroGeographics nor the National Mapping and Cadastral Agencies will be liable to the customer or any other party for any loss, damage, inconvenience or expense resulting from the use of, or reliance upon, the data.

9 Metadata

Information on Metadata

Language	ENG
Responsible party	
Individual Name	Ingrid Naumann
Organisation Name	Federal Agency for Cartography and Geodesy (BKG), Germany
Role	Point of Contact
phone	
voice	+49 341 5634 340
address	
Delivery point	Karl-Rothe-Strasse 10-14
City	Leipzig
Postal code	04105
Country	DE
electronic-Mail Address	ingrid.naumann@bkg.bund.de
Date	December 2010

Data identification

Citation

Title	EuroBoundaryMap
Date	
Reference date	1 January 2010
Edition	v5.0
Edition date	January 2010

Point of Contact

Organisation Name	EuroGeographics
Role	Owner
Address	
Delivery point	rue du Nord 76 Noordstraat 76
City	Brussels
Postal code	1000
Country	BE

Data Spatial representation

Spatial representation type	Vector

Spatial Resolution

Scale	1:100 000
Dimension	Geographical coordinates in degrees
Language	EN
Topic Category	administrative/statistical units/regions, national administrative hierarchies, administrative boundaries

Extent

Geographic bounding box	
WestBoundLongitude	- 10.7
SouthBoundLatitude	34.5
EastBoundLongitude	40.2
NorthBoundLatitude	71.4
Geographic bounding box	
WestBoundLongitude	- 73.3
SouthBoundLatitude	59.7
EastBoundLongitude	-11.4
NorthBoundLatitude	83.7
Geographic bounding box	
WestBoundLongitude	-31.1
SouthBoundLatitude	27.6
EastBoundLongitude	-13.4
NorthBoundLatitude	39.8

Geographic bounding box	
WestBoundLongitude	-63.2
SouthBoundLatitude	2.1
EastBoundLongitude	-51.6
NorthBoundLatitude	18.2
Geographic bounding box	
WestBoundLongitude	55.2
SouthBoundLatitude	- 21.4
EastBoundLongitude	55.9
NorthBoundLatitude	-20.8

Data maintenance

Maintenance and Update frequency	once a year

Restriction Constraints

use limitations	see contract between EuroGeographics and EC/Eurostat, signed in December 2009

Data quality

scope	
level	geo data base
level description	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark (incl. Faroe Islands and Greenland), Estonia, Finland, France (incl. Monaco, Guadeloupe, Martinique, French Guiana, Reunion), Germany, Great Britain, Greece, Greenland, Hungary, Iceland, Ireland, Italy (incl. San Marino and Vatican City), Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Malta, The Netherlands, Northern Ireland, Norway, Poland, Portugal (incl. Azores and Madeira), Romania, Serbia, Slovakia, Slovenia, Spain (incl. Andorra, Gibraltar and Canary Islands), Sweden, Switzerland, Ukraine
Lineage	
Statement	See metadata delivered by European National Mapping and Cadastral Agencies, members of EuroGeographics

Spatial representation

Vector Spatial representation

Geometric Objects	Areas (Polygons), Lines (Arcs), Points

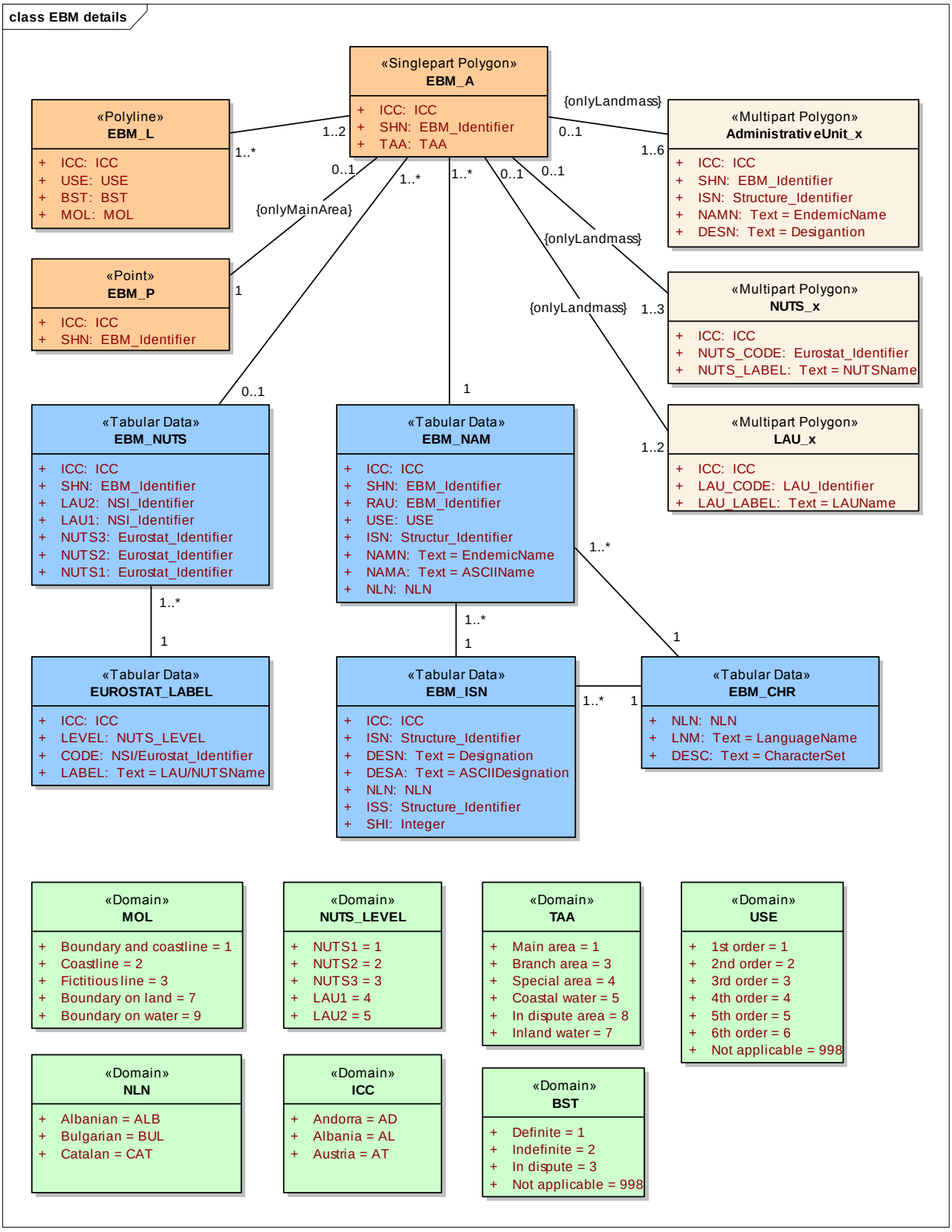
Reference system

Reference system identifier	
Code	WGS84 (ETRS89)
Ellipsoid	
Code	GRS 80
Projection	
Code	Geographical coordinates in DD

Distribution

Responsible party	
Individual Name	Dave Lovell, Executive Director
Organisation Name	EuroGeographics
Role	Owner, Distributor, Point of Contact
phone	
voice	+32 484 663 345
facsimile	
address	
Delivery point	rue du Nord 76 Noordstraat 76
City	Brussels
Postal code	1000
Country	BE
electronic-Mail Address	dave.lovell@eurogeographics.org

Annex A: Data model



Annex B: Country and language codes

(ICC has been defined according to ISO 3166, exceptions are described)

Dataset	Included Countries		Comment
	ICC	Name	
Albania	*AL*	*Albania*	*Not included in EBM v5.0*
Austria	AT	Austria	
Belgium	BE	Belgium	
Bosnia and Herzegovina	*BA*	*Bosnia and Herzegovina*	*Not included in EBM v5.0*
Bulgaria	BG	Bulgaria	
Croatia	HR	Croatia	
Cyprus	CY	Cyprus	
Czech Republic	CZ	Czech Republic	
Denmark	DK	Denmark	
	GL	Greenland	
	FO	Faroe Islands	
Estonia	EE	Estonia	
Finland	FI	Finland	
France	FR	France	
	MC	Monaco	
	GP	Guadeloupe	Overseas departments belonging to the European Union
	GF	French Guiana	
	MQ	Martinique	
	RE	Reunion	
	BL	Saint-Barthélemy	Overseas collectivities outside the French administrative hierarchy. Nevertheless, those territories are part of the European Union.
	MF	Saint-Martin	
Germany	DE	Germany	
Great Britain	GB	Great Britain	Not completely compliant with ISO 3166, as the dataset only contains the provision of OS (and not the data from OSNI)
Greece	GR	Greece	
Hungary	HU	Hungary	
Iceland	IS	Iceland	
Ireland	IE	Ireland	
Italy	IT	Italy	
	SM	San Marino	
	VA	Vatican City	
Kosovo	KS	Kosovo	Not compliant with ISO 3166 (not yet defined)
Latvia	LV	Latvia	
Lithuania	LT	Lithuania	
Luxembourg	LU	Luxembourg	
Macedonia, The Former Yugoslav Republic Of	*MK*	*Macedonia, The Former Yugoslav Republic Of*	*Not yet included in EBM v5.0*
Malta	MT	Malta	
Moldova	MD	Moldova	
Montenegro	*ME*	*Montenegro*	*Not included in EBM v5.0*
Netherlands	NL	Netherlands	
Northern Ireland	ND	Northern Ireland	Not compliant with ISO 3166, as this dataset contains only data delivered from OSNI (see also GB)
Norway	NO	Norway	
Poland	PL	Poland	
Portugal	PT	Portugal	

Romania	RO	Romania	
Serbia	RS	Serbia	
Slovakia	SK	Slovakia	
Slovenia	SI	Slovenia	
Spain	ES	Spain	
	AD	Andorra	
	GI	Gibraltar	
Sweden	SE	Sweden	
Switzerland	CH	Switzerland	
	LI	Liechtenstein	
Turkey	TR	Turkey	*Not yet included in EBM v5.0*
Ukraine	UA	Ukraine	

Language	*ISO 639-2/B 3 character language code (NLN)*
Albanian	ALB
Basque	BAQ
Bulgarian	BUL
Bosnian	BOS
Catalan	CAT
Croatian	HRV
Czech	CZE
Danish	DAN
Dutch	DUT
English	ENG
Estonian	EST
Faroese	FAO
Finnish	FIN
French	FRE
Gaelic	GLA
German	GER
Greek	GRE
Hungarian	HUN
Icelandic	ICE
Irish	GLE
Italian	ITA
Kalaallisut, Greenlandic	KAL
Latvian	LAV
Lithuanian	LIT
Macedonian	MAC
Maltese	MLT
Norwegian	NOR
Polish	POL
Portuguese	POR
Romanian, Moldavian, Moldovan	RUM
Romansh	ROH
Serbian	SRP
Slovak	SLO
Slovenian	SLV
Spanish	SPA
Swedish	SWE
Turkish	TUR
Ukrainian	UKR
Valencian	VAL (Not ISO compliant. According to ISO, Catalan and Valencian are the same language with unique code CAT.)
Welsh	WEL

Annex C: Temporal accuracy

ICC	Reference date	Lowest Administrative Level	Matching
AT	1 January 2010	Gemeinde	LAU2
BE	1 January 2010	Commune / Gemeente	LAU2
BG	1 January 2010	Землище (Населени места)	LAU2
CH	1 January 2010	Gemeinde	NUTS3
CY	1 January 2010	Δήμος / Κοινότητα	LAU2
CZ	1 January 2010	Obec	LAU2
DE	1 January 2010	Gemeinde / Stadt	LAU2
DK	1 January 2010	Sogn	LAU2
EE	1 January 2010	Linn / Vald	LAU2
ES	1 January 2010	Término Municipal	LAU2
FI	1 January 2010	Kunta / Kommun	LAU2
FR	1 January 2010	Commune	LAU2
GB	1 January 2010	Electoral Division / Ward	LAU2
GR	1 January 2010	Δήμος / Κοινότητα	LAU1
HR	1 January 2010	Grad / Općina	NUTS3
HU	1 January 2010	Település	LAU2
IE	1 January 2010	Electoral Division	LAU2
IS	1 January 2010	Sveitarfélag	NUTS3
IT	1 January 2010	Comune	LAU2
KS	1 January 2010	Komuna	
LT	1 January 2010	Seniunija	LAU2
LU	1 January 2010	Commune	LAU2
LV	15 February 2010	Pagasts / Pilsēta	LAU2
MD	unknown	Oraş (Municipiu) / Sat (Comuna)	
MT	1 January 2010	Kunsilli Locali	LAU2
ND	1 January 2010	Ward	LAU2
NL	1 January 2010	Gemeente	LAU2
NO	1 January 2010	Kommune	NUTS3
PL	1 January 2010	Gmina	LAU2
PT	1 January 2010	Freguesia	LAU2
RO	1 July 2010	Municipiu / Oraş / Comună	LAU2
RS	1 January 2010	Opština	
SE	1 January 2010	Kommun	LAU2
SI	1 January 2010	Naselje	LAU2
SK	1 March 2010	Obec	LAU2
UA	unknown	Район	

Annex D: List of features and attributes

This list holds all the feature classes, features, tables and attributes of EuroBoundaryMap product.

Feature Class	Feature type	Feature code Attributes	Data type	Description
EBM_A	**Area**	**FA001**		Administrative area
		ICC	Text	Two character country code (ISO 3166)
		SHN	Text	Strictly hierarchical built identifier, derived from national code of corresponding administrative units
		TAA	Short Integer	Type of administrative area
EBM_L	**Line**	**FA000**		Administrative boundary
		ICC	Text	Two character country code (ISO 3166)
		USE	Short integer	Level of boundary in the national administrative hierarchy
		BST	Short integer	Boundary status type
		MOL	Short integer	Meaning of line
EBM_P	**Point**			Reference points (for the main area of an local administrative unit only)
		ICC	Text	Two character country code (ISO 3166)
		SHN	Text	Strictly hierarchical built identifier, derived from national code of corresponding administrative units

Feature Class	Feature type	Attributes	Data type	Description
Administrative Units_X	**Area**			Administrative units at level X
		ICC	Text	Two character country code (ISO 3166)
		SHN	Text	Strictly hierarchical built identifier, derived from national code of corresponding administrative units
		NAMN	Text	Geographical (official) name of the administrative unit given in national characters (Unicode-UTF8)
		ISN	Short integer	Unique structure identifier which identifies a level of the national administrative hierarchy
		DESN	Text	Designation of the national administrative hierarchy level given in national characters (Unicode-UTF8). In case of more than one official language the designations are delimited by #
NUTS_X	**Area**			NUTS-regions at level X
		ICC	Text	Two character country code (ISO 3166)
		NUTS_CODE	Text	Unique code of NUTS-region as published by Eurostat
		NUTS_LABEL	Text	Name of the NUTS-regions as published by Eurostat
LAU_X	**Area**			LAU-regions at level X
		ICC	Text	Two character country code (ISO 3166)
		LAU_CODE	Text	National unique code of LAU-region
		LAU_LABEL	Text	Name of LAU-region

Table	Attributes	Data type	Description
EBM_NAM			Names of administrative units at all levels of national hierarchy
	ICC	Text	Two character country code (ISO 3166)
	SHN	Text	Strictly hierarchical built identifier, derived from national code of administrative units
	RAU	Text	Code which corresponds to the SHN code of the residence of authority of an administrative unit
	USE	Short integer	Level of administration in the national administrative hierarchy
	ISN	Short integer	Unique structure identifier which identifies a level of the national administrative hierarchy
	NAMN	Text	Geographical (official) name of the administrative unit given in national characters (Unicode-UTF8)
	NAMA	Text	Geographical (official) name of the administrative unit transliterated in ASCII characters
	NLN	Text	ISO 639-2/B 3 character language code of the geographical name (NAMN). In case of more than one official language the codes are delimited by #.

Table	Attributes	Data type	Description
EBM_NUTS			Relationship between the SHN codes of local administrative units (for EU countries only), their national statistical codes (LAU1/LAU2) and their corresponding NUTS codes
	ICC	Text	Two character country code (ISO 3166)
	SHN	Text	Strictly hierarchical built identifier, derived from national code of administrative units
	LAU2	Text	Statistical code of local administrative units (LAU) as defined by National Statistical Institutes
	LABEL	Text	Name of the local administrative unit (LAU) as defined by National Statistical Institutes
	NUTS1	Text	NUTS 1 code of territorial unit for statistics as published by Eurostat.
	NUTS2	Text	NUTS 2 code of territorial unit for statistics as published by Eurostat.
	NUTS3	Text	NUTS 3 code of territorial unit for statistics as published by Eurostat.

Table	Attributes	Data type	Description
EBM_CHR			National character sets for each language used in EBM
	NLN	Text	ISO 639-2/B 3-character language code
	LNM	Text	Language name
	DESC	Text	Description of the character set

Table	Attributes	Data type	Description
EBM_ISN			Designations and unique codes for all national levels of administrative hierarchy
	ICC	Text	Two character country code (ISO 3166)
	ISN	Short integer	Unique structure identifier which identifies a level of the national administrative hierarchy
	DESN	Text	Designation of the national administrative hierarchy level given in national characters (Unicode-UTF8). In case of more than one official language the designations are delimited by #
	DESA	Text	Designation of the national administrative hierarchy level transliterated in ASCII characters. In case of more than one official language the designations are delimited by #
	NLN	Text	ISO 639-2/B 3-character language code of the designation (DESN). In case of more than one official language the codes are delimited by #
	ISS	Short integer	Substructure identifier which points to the ISN attribute of another record in this table identifying the hierarchy level immediately below the current
	SHI	Short integer	Number of figures which must be removed from right of the SHN code and replaced with zeros to identify the corresponding upper level unit

Table	Attributes	Data type	Description
EUROSTAT_LABEL			Names (labels) of statistical regions as published by Eurostat
	ICC	Text	Two character country code (ISO 3166)
	LEVEL	Short Integer	LAU or NUTS level
	CODE	Text	Code of the statistical region as published by Eurostat
	LABEL	Text	Name of the statistical region as published by Eurostat.