Euratlas Georeferenced Vector Data: Layers Description

Euratlas Georeferenced Vector Data contain two main sets of layers, one for geographical elements and one for political elements.

I - Political Data Description

Territories

Political data are composed of

a) the cities and

b) the countries and administrative divisions.

The countries and administrative divisons are represented in a 3 level hierarchy, the intermediary level being optional. The highest level is the *country* or *political entity* level. All countries are defined by a unique number, *entity_id*, which is the same for all the centuries. The geometry of a country is generated from the union of all its composing provinces, which are described below.

The lowest level is the *province* level. It represents the smallest unit of administrative division in a country. Each province has a reference on the id of its *owner* country and, if existing, of its so-called *holder* country. This latter optional link is used to describe vassalage or dependency on a sovereign country. As the provinces are the smallest unit of country, all other shapes of the hierarchy -i. e. country and dioceses- are generated from the provinces.

In the end, there is a third optional level, called *diocese*, which aims to represent a second-level administrative division in a country. Thus, a diocese is simply composed of multiple provinces of a given country. Thus, provinces have also an optional link to their diocese. Moreover, as a province may be related to two different countries (owner and holder), there is also another optional link to represent the nominal belonging to a diocese of the holder country. Like for the country, the diocese geometries are generated from their provinces.

According this hierarchy, *sovereign states* or *owner_countries* are all entities having at least one owned province territory. On the opposite, *dependent states* or *holder_countries* are entities having no owned territory.

There is also another political entity not included in the hierarchy above: *autonomous people,* which represents populations with no well-defined authority. The peoples are also defined by an *entity_id*. If a people also appears as a country on another year, then the same id will be used both for the people and the successor country.

The political entity data contain also a special layer called *fuzzy border*. These are a set of polygons covering some borders with a high level of uncertainty due to lack of information.

The *cities* are represented separately and are identified in a year-independent manner by a unique point location. Each city has also name and size information for every century for which the city exists.

<u>Names</u>

Names are provided for every political entity. Each entity has at least a short form name, which is generally the proper noun of the entity. Additionally, most of them have also a long form name which is the official form of the name, when available, or a short description of the entity. Also, some entities may have variant names, separated with semicolon or some abbreviations.

Names are originally encoded in Unicode(UTF8). This is necessary as many names may contain caracters specific to some regions and thus, not all local character set may handle these cases. We provide two versions of the data: one using UTF8 (recommended) and one using Latin-1(ISO-8859-1). In this latter set, invalid characters have been replaced by a question mark.

II - Geographical data description

The geographical features are composed of the seas, small rivers, big rivers and mountains. S*eas* and *rivers* are different for each year. Indeed, coastlines and some rivers have changed a bit between year 1 and year 2000. Thus, we provide a different layer of sea and river for every century even though there are very few differences.

Mountains are the same for all the centuries. They are represented as polygons for the contours of five different heights: 200m, 500m, 1000m, 2000m and 3500m.

III - Layers description

Here is a brief description of each layer and of its attributes. Some attributes are underlined to indicate that, taken together, they form a unique identifier for one feature of the layer. Some fields are optional and the value -1 (empty text for text field) is used to indicate null value. These latter attributes are prefixed with an * in the following description.

Some layers are provided for each year separately and some are provided also for each encoding separately. This is specified just after the layer name in the following description. This also indicates in which directory of the dataset the file is located.

The spatial reference system for all layers is the Mercator projection of World Geodetic System(WGS84). This reference system corresponds to SRID value 3395 according to the European Petroleum Survey Group(EPSG).

<u>Provinces [MULTIPOLYGON]</u> *year/encoding*

This represents the smallest level of an administrative division. All other political shapes (apart from *autonomous people*) are generated from this layer. This layer also contains the political dependencies relationships. Each province has an *owner* entity, representing the sovereign authority of the state, but it may also have a *holder* entity. The *holder* represents the vassal or dependent authority for this state. The names of some provinces may be inherited from the name of the, *owner* or *holder*, entity.

<u>*owner_id*</u> : owner entity ID

<u>*num*</u>: unique province number for this owner entity for this year.

*holder_id: holder entity ID if there is a dependence on this territory

dual_color: concatenation of *owner_id* and *holder_id* with an underscore between (used for style)

*diocese: diocese number in the owner entity

*diocese_h: diocese number in the holder entity

short_name,* long_name,* abrevs, *variants : names of the territory

Dioceses [MULTIPOLYGON] *year/encoding*

Represents the second level of administrative division. No political dependencies are shown at this level. Dioceses (or eyalets, or regions) are composed of provinces according to their *diocese_territory_num* field. Dioceses territories are automatically generated from their corresponding provinces shapes. This level is optional and only some countries have dioceses. For some centuries, there are no diocese at all.

owner_id : owner entity ID

num: unique diocese number for this owner_entity for this year.

short_name,* long_name,* abrevs, *variants: names of the territory

Sovereign Countries [MULTIPOLYGON] *year/encoding*

Represents sovereign or independent states. Dependency relationships are not visible at this level and only the independent states are depicted. Dependent entities or *holder_countries* are simply included in the sovereign or *owner_country* territory. These territories are constructed by grouping provinces according to their *owner_id*.

entity_id : ID of the entity represented by this territory

short_name,* long_name,* abrevs, *variants: names of the entity

Holder countries [MULTIPOLYGON] *year/encoding*

Represents sovereign and non-sovereign states. Thus, each territory of this layer has an owner and sometimes a holder, like in the provinces layer. However, countries having dependent parts do not appear as a unique territory but as several territories with different *holder_id*. So, every entity appears in this layer, either as owner of some territory, or, for non-sovereign countries, as holder. These territories are constructed by grouping provinces according to both their own*er_id* and their *holder_id*. The style to be used is *provinces.sld*.

owner_id : owner entity ID

*holder_id : holder entity ID if there is a dependence on this territory

dual_color: concatenation of *owner_id* and *holder_id* with an underscore between (used for style)

short_name,* long_name,* abrevs, *variants: names of the owner entity

sname_h,* lname_h,* abrevs_h, *variants_h: names of the holder entity if exists

Populations [MULTIPOINT] *year/encoding*

Autonomous people without well-defined territory. Populations also have an entity ID to uniquely identify the population but this ID doesn't define any color as for the other entities.

entity_id : ID of the entity represented by this territory

short_name, *long_name,* *abrevs, *variants*: names of the entity

Cities   [MULTIPOINT but contains actually only one POINT per city] *year/encoding*

id: unique ID for the city, same across the years

size: importance/size of the city between 1 and 5

name: name of the city

Fuzzy_borders [MULTIPOLYGON] *year*

These are polygons which overlap with territories polygons in order to represents the uncertainty on some countries boundaries.

Rivers [MULTILINE] *year*

The rivers with an attribute *size* which can have two values: 1 or 2

Seas [MULTIPOLYGON] *year*

The seas

Mountains 200->3500 [MULTIPOLYGON]

The mountains

IV - Styles

SLD (Styled Layer Descriptor) files are provided for each layer. They contain styles to render maps in the same way than the original Periodical Historical Atlas of Europe. In the current version, the styles for the provinces and the countries are provided separately for each year because they use special colouring which require having a lot of information in the style file.

Each entity identifier defines a unique color which is always the same for each year. This color is used to fill country territory and province territory. Provinces having an holder entity are filled by the holder color and surrounded with the owner color. Diocese are simply surrounded with red color.

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