

ARTICLES

SLOVENIA IN GEOGRAPHICAL TYPIFICATIONS AND REGIONALIZATIONS OF EUROPE

AUTHORS

Rok Ciglič, Drago Perko

Scientific Research Centre of the Slovenian Academy of Sciences and Arts, Anton Melik Geographical Institute, Gosposka ulica 13, SI – 1000 Ljubljana, Slovenia
rok.ciglic@zrc-sazu.si, drago@zrc-sazu.si

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ABSTRACT

Slovenia in geographical typifications and regionalizations of Europe

Slovenian geographical literature often emphasizes Slovenia's landscape diversity and its position at the intersection of four major European geographical units: the Alps, the Mediterranean, the Pannonian Basin, and the Dinaric Alps. This article establishes whether Slovenia's diversity is also reflected in non-Slovenian geographical divisions (classifications, typifications, and regionalizations) of Europe. It examines various divisions of Europe and establishes how Slovenia is divided and to what extent these divisions resemble the well-established Slovenian geographical typification of Slovenia.

KEY WORDS

regional geography, geographical typification, regionalization, Slovenia, Europe

IZVLEČEK

Slovenija v geografskih tipizacijah in regionalizacijah Evrope

V slovenski geografski literaturi se pogosto poudarja pokrajinska raznolikost Slovenije in njena lega na stiku štirih velikih evropskih geografskih enot: Alp, Sredozemlja, Panonske kotline in Dinarskega gorovja. V prispevku ugotavljamo, ali se raznolikost Slovenije kaže tudi pri tujih geografskih členitvah (klasifikacijah, tipizacijah in regionalizacijah) na ravni Evrope. Pregledali smo različne členitve Evrope in ugotavljali, kam se uvršča Slovenija, kako je Slovenija razdeljena in koliko so te delitve Slovenije podobne eni od uveljavljenih slovenskih geografskih tipizacij Slovenije.

KLJUČNE BESEDE

regionalna geografija, geografska tipizacija, regionalizacija, Slovenija, Evropa

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1 Introduction

Slovenia's landscape diversity is a feature that counterbalances its smallness. At the same time, it is also a natural value that demands greater care for the environment and more detailed planning because best practices usually cannot simply be transferred from one area to another. A number of Slovenian researchers have drawn attention to this diversity. Melik (1935) emphasized that Slovenia is where the Alps meet the Dinaric Alps and that Slovenia extends all the way to *the Adriatic Sea, the Friulian Plain, and the Pannonian Basin*. He characterized Slovenia as »the land of intersections« (Melik 1935, 1–3). The intersection of four European natural geographical regions (i.e., *the Alps, the Dinaric Alps, the Mediterranean, and the Pannonian Basin*) was also described by Gams (1998), who drew attention to the non-uniform delineation of Slovenian macro-regions (Gams 1998, 9–11). Slovenia's landscape diversity was well described by Kladnik and Perko, who noted that »in a circle with a diameter of 150 km, encompassing Slovenia, the high mountainous *Alps* meet and mingle with prealpine hills and basins, the flat *Pannonian Plain* with its hilly edges, the karstified *Dinaric Alps* with karst plateaus and lowlands in between, and the *Mediterranean* with the mitigating effects of the *Adriatic Sea*« (Kladnik and Perko 1998, 20). On top of everything, Slovenia is also at the intersection of four cultural areas (i.e., Slavic, Germanic, Romance, and Hungarian), which is why a number of cultural landscape types have also formed in this small area (Kladnik and Perko 1998, 20). Plut (1999, 12) also mentioned the intersection of four European physical-geographical macro-regions (i.e., *the Alps, the Pannonian Plan, the Dinaric Alps, and the Mediterranean*) and the formation of five landscape types (in addition to the ones mentioned above, he also included *the Prealps*) as a geographical constant that needs to be taken into account in sustainable development planning.

2 The purpose of this article and overview of geographical divisions of Europe

This article presents several European geographical divisions, especially those that take into account natural landscape elements (i.e., relief, rocks, climate, vegetation, etc.). It examines how many macro-units (types or regions) Europe is divided into and which ones Slovenia belongs to. It establishes whether Slovenia's diversity is also reflected in small-scale divisions of Europe. In addition, it also examines some divisions that are based on social landscape elements such as land use. According to Meeus (1995, 57–58), only 10 to 30% of Europe can be characterized as true natural landscape.

The geographical scope, the number of levels and categories (i.e., the number of various regions or types) in the entire area covered by division and the number of levels and categories in Slovenia, the spatial resolution of data, the purpose, the main methodological procedures, and the authors were defined for each division. An attempt was also made to determine the type of division (typification or regionalization), even though they mainly involve a combination of both.

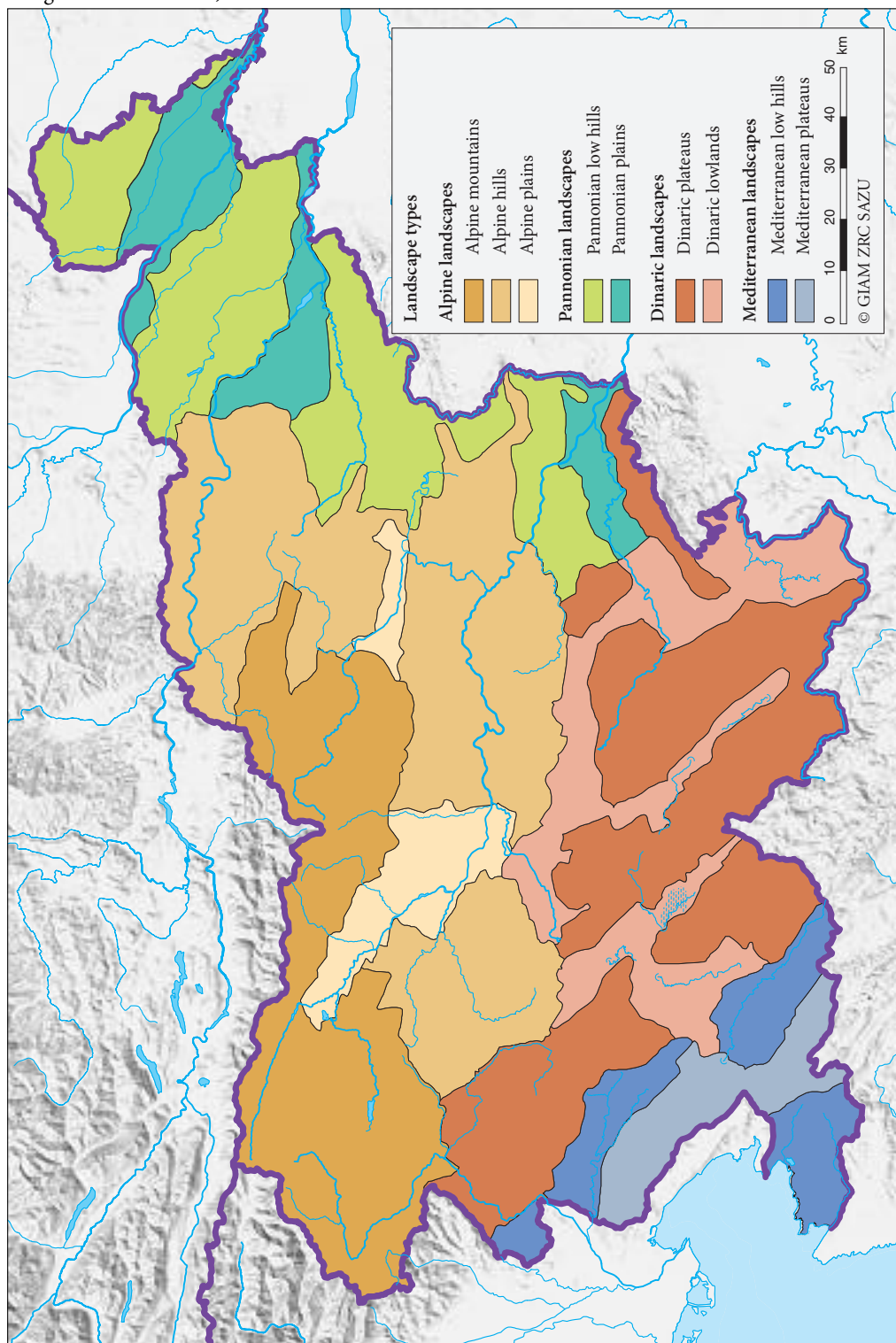
Detailed methodological procedures and other data were unavailable for some divisions and so only the number of individual categories used for Slovenia is provided for these.

To make comparison easier, all the divisions of Slovenia are presented on maps using the same scale.

3 Geographical typification of Slovenia

In order to compare how individual geographical typifications and regionalizations of Europe show Slovenian landscapes and how they differentiate between them, a relatively simple geographical typi-

Figure 1: Geographical typification of Slovenia, levels 1 and 2 (Perko 2008, 54) ►



fication was selected that divides Slovenia into four types at the first level, and into nine types or subtypes at the second level (Figure 1). The first level is connected with Slovenia's location at the intersection of four major European geographical units – *the Alps*, *the Pannonian Basin*, *the Dinaric Alps*, and *the Mediterranean* – and, at the second level, the first-level types are divided primarily according to relief and rock structure (Perko 2008, 33–54).

This geographical typification, which is primarily based on natural landscape elements and land use, has the following structure:

- The first type (*Alpine landscapes*) has three subtypes: *Alpine mountains*, *Alpine hills*, and *Alpine plains*;
- The second type (*Pannonian landscapes*) has two subtypes: *Pannonian low hills* and *Pannonian plains*;
- The third type (*Dinaric landscapes*) has two subtypes: *Dinaric plateaus* and *Dinaric lowlands*;
- The fourth type (*Mediterranean landscapes*) has two subtypes: *Mediterranean low hills* and *Mediterranean plateaus*.

Based on this, a regionalization of Slovenia was also designed (Perko 2008, 55), dividing Slovenia into four macro-regions at the first level, and into 48 regions at the second level:

- The first macro-region (*the Alps*) consists of 11 regions (e.g., the Julian Alps, the Sava Hills, and the Sava Plain);
- The second macro-region (*the Pannonian Basin*) consists of 12 regions (e.g., the Haloze Hills and the Mura Plain);
- The third macro-region (*the Dinaric Alps*) consists of 19 regions (e.g., the Javornik Hills, Mount Snežnik, and White Carniola);
- The fourth macro-region (*the Mediterranean*) consists of six regions (e.g., the Gorizia Hills and the Karst).

The boundaries of the macro-regions specified in the regionalization match the boundaries of types in the typification (e.g., in the regionalization, *the Alps* cover the same area as *the Alpine landscape* in the typification) and each region specified in the regionalization matches one of the subtypes in the typification (e.g., the Alps macro-region includes four regions of the Alpine mountains subtype, five regions of the Alpine hills subtype, and two regions of the Alpine plains subtype).

Because Slovenia is at the intersection of two very different geographical units, the majority of its geographical types and regions are characterized by transition and influences from neighboring types and regions. Slovenia's geographical typification and regionalization thus also present a great research challenge.

Based on how a specific geographical typification or regionalization of Europe or its areas divides Slovenia, a connoisseur of Slovenia's geography may determine the suitability and quality of this geographical division relatively well.

4 Overview of European divisions

Older divisions of Europe were produced in a traditional manner, based on the subjective judgment and expertise of their authors (Mücher et al. 2003), whereas the latest divisions (e.g., the Environmental Stratification of Europe, and the European Landscape Classification) have been prepared using geographical information systems and are especially interesting because of their methodology and high data resolution; with some, the basic spatial data unit (cell) is only 1 km². Because vegetation is closely connected with other natural factors (Internet 5), this article also presents some maps with classifications that are based on vegetation because it can provide a good picture of natural landscape diversity.

The divisions of Europe that were examined in greater detail are:

- 1: The Environmental Stratification of Europe (Mücher et al. 2003; Metzger et al. 2005; Jongman et al. 2006);

- 2: The European Landscape Classification (LANMAP2; Mücher et al. 2003; 2006; 2010);
- 3: The Digital Map of European Ecological Regions (Internet 1);
- 4: Biogeographical Regions (Internet 2);
- 5: The Physical-Geographical Classification of Europe (Germ. *Physisch-geographische Gliederung Europas*; Bohn et al. 2002/2003);
- 6: The Pan-European Landscape Types (Meeus 1995);
- 7: The Terrestrial Ecoregions of the World (Olson et al. 2001);
- 8: The Biogeographical Provinces of Europe (Internet 3);
- 9: The Biogeographic Map of Europe and Bioclimatic Map of Europe (Rivas-Martínez, Penas, and Díaz 2009);

4.1 The Environmental Stratification of Europe

A group of researchers from the Netherlands, the United Kingdom, and Portugal developed a division of Europe in order to define sample areas in Europe and units applicable to various environmental models and reports (Mücher et al. 2003; Metzger et al. 2005). They used the principal component method, in which they replaced several data layers (e.g., height, slope, vicinity of the ocean, latitude, and several climate variables for January, April, July, and October) with only three combined variables (components), which they used to divide the cells into groups. They defined 84 environmental classes and combined them into 13 environmental zones, which they combined further into six biogeographic regions. Also taking into account the islands in the Atlantic Ocean, the total number of zones is 14 (and seven regions). The entire stratification uses a spatial resolution of 1 km² (Mücher et al. 2003; Metzger et al. 2005; Jongman et al. 2006). It covers the territory between 11° W and 32° E, and between 34° and 72° N (Metzger 2005, 558). Because of great differences, the entire area was statistically processed in two divisions: north and south (Metzger 2005, 554, 558). Even though the units at the highest level are called regions, this is more of a typification than a regionalization. It is interesting that the Alpine region also appears in Scandinavia.

Slovenia lies in three of the six biogeographical regions (Figure 2) and in five of the 13 environmental zones. It includes the following environmental zones: the *Alpine south*, *Mediterranean mountain*, *Mediterranean north*, *Pannonian*, and *Continental* zones. At the lowest level, Slovenia contains 12 of the 84 classes (Metzger et al. 2005, 558). The boundary between both major divisions also runs across Slovenia because the *Mediterranean mountain* zone and the *Mediterranean north* zone belong to the south, and the rest to the north.

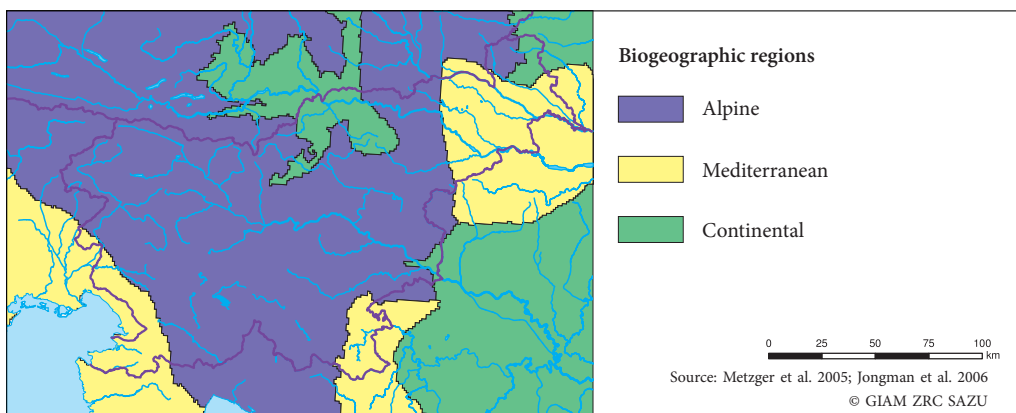


Figure 2: Environmental Stratification of Europe, level 2 (Metzger et al. 2005; Jongman et al. 2006).

4.2 The European Landscape Classification

The Alterra Institute prepared a typification that differs from the previous one primarily in the fact that it also includes the sociogeographical element of land use, and uses the method of segmentation and classifying segments into groups. The purpose of this classification was to develop a landscape typification for all of Europe that could be connected with typifications at the level of individual countries and used as a basis for other projects (Mücher et al. 2003, 53). The authors used data on climate, elevation, soil, and land use (Mücher et al. 2006, 5). They also specified major urban areas, water surfaces, and tide areas (Mücher et al. 2006). They first divided Europe into small homogenous units (segments) using elevation, soil, and land-use data, and afterwards also took into account the climate data in order to classify these units into individual types (Mücher et al. 2010, 4). In classifying the homogenous units at the first level (Figure 3), they took into account the climate; it contains eight types: *Arctic*, *Boreal*, *Atlantic*, *Alpine*, *Mediterranean*, *Continental*, *Anatolian*, and *Steppic*. At the second level, they also took into account the elevation; this level consists of 31 types. The third level also took into account the soil and includes 76 types. The lowest (i.e., fourth) level then also took into account special land-use areas and includes 350 landscape types and more than 14,000 polygons (Mücher et al. 2006, 9). Except for the Alpine type, only a few types occur in different, spatially separated areas at the highest level.

Raster processing was first performed on 1 km² cells and then the obtained polygons or units smaller than 11 km² were combined with the neighboring ones. The final map at a scale of 1 : 2,000,000 covers all of Europe, up to the Ural Mountains in the east and Azerbaijan in the southeast and Novaya Zemlya in the northeast; the map does not include Cyprus (Mücher et al. 2006). The first version of the map (Mücher et al. 2003) covered only part of the European Union and did not take climate into account in its classification.

In Slovenia three types can be observed at the first level: *Mediterranean*, *Continental*, and *Alpine*. Nearly all of Slovenia lies in the Mediterranean type but, surprisingly, the Gorizia Hills are part of the Alpine type. At the second level, Slovenia includes eight types (not counting the excluded urban areas of Ljubljana and Maribor). The third level includes 12 of a total of 76 types, and the final, fourth level includes 19 of a total of 350 types.

4.3 The Digital Map of European Ecological Regions (DMEER)

The DMEER is a biogeographical map showing European ecological regions based on climate, topography, and geobotanical data. It was produced by researchers from several European institutes and the

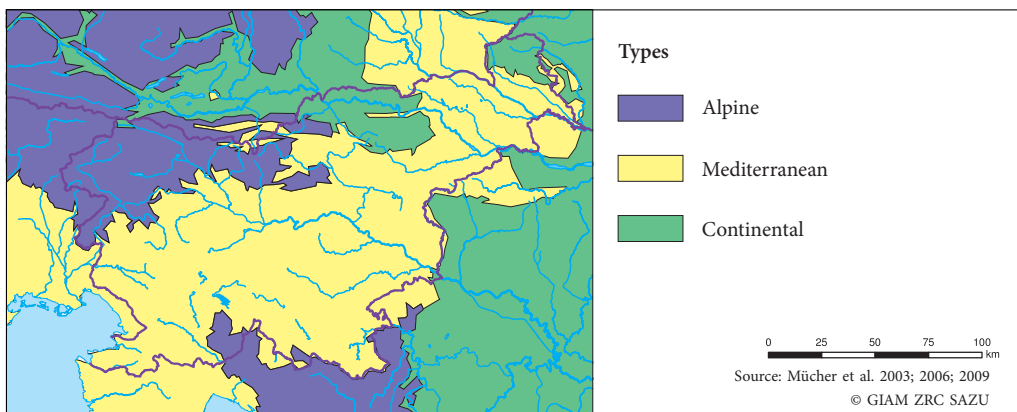


Figure 3: The European Landscape Classification, level 1 (Mücher et al. 2003; 2006; 2010).

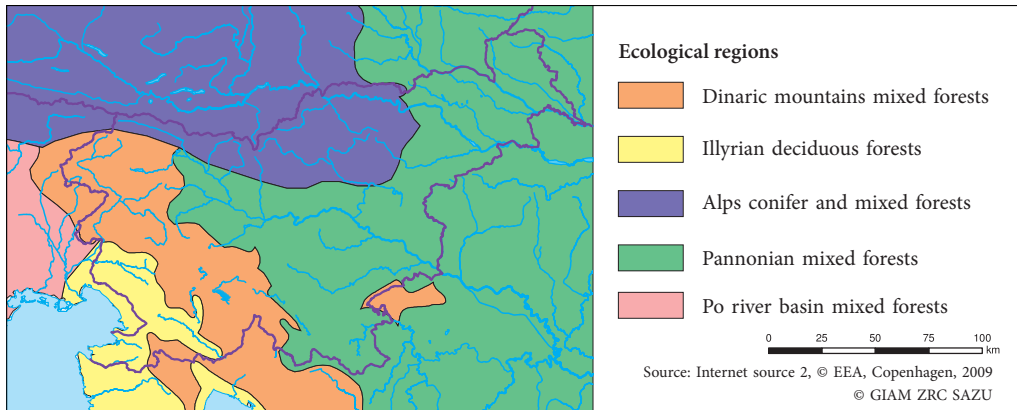


Figure 4: European ecological regions, level 1 (Internet 1; © EEA, Copenhagen, 2009)

World Wildlife Fund (WWF) based on the hierarchical classification of data they obtained from the natural vegetation map by the German Federal Agency for Nature Conservation and the European Landscape Classification map by the British Institute of Terrestrial Ecology with a $0.5^\circ \times 0.5^\circ$ resolution. The polygons that were defined based on both data layers were then divided into groups several times by testing, and then the most suitable classification was selected for individual parts of Europe. All polygons smaller than 2,000 km² were eliminated. The final map at a scale of 1 : 2,500,000 was harmonized with the map of WWF ecoregions. This classification was used in order to promote more effective managing of the regions and show areas with homogenous ecological conditions. The map shows all of Europe measuring 10.5 million km², including Turkey, the coast of the Middle East, and Sinai (Mücher et al. 2003, 114, 116; Internet 1; Internet 5).

The final classification is markedly based on vegetation and has typification features because the same units are spatially separated. Ecological regions are largely named after the vegetation type (Figure 4). The classification includes 68 European ecological regions (Internet 5).

In the map, Slovenia is classified under four units and it borders on one:

- *Dinaric Mountains mixed forests,*
- *Illyrian deciduous forests,*
- *Alpine coniferous and mixed forests,*
- *Pannonian mixed forests,*
- *Po Basin mixed forests.*

4.4 Biogeographical Regions

The Map of Biogeographical Regions was produced for the NATURA2000 network (Directive 92/43/EEC). This was the first time that non-administrative boundaries were accepted in an official EU-document (Mücher et al. 2003, 113). The division used was spatially expanded and also applied to the EMERALD network (with slight modifications). The last version from 2008 was prepared at a scale of 1 : 1,000,000. The map of Europe only shows EU countries, including the Canary Islands and the Azores (Internet 2; European Topic Centre ... 1996). The first versions were based on combining natural vegetation in the member states of the European Community and the Council of Europe (Noirfalies 1987), whereby forest communities were combined into biogeographical regions (including azonal units) and the map was generalized. In later versions, the Map of Potential Vegetation prepared by the German Federal Agency for Nature Conservation was also used (European Topic Centre ... 1996). The 2008 division (Figure 5), which covers the EU, includes nine biogeographical regions: *Alpine, Atlantic, Black Sea,*

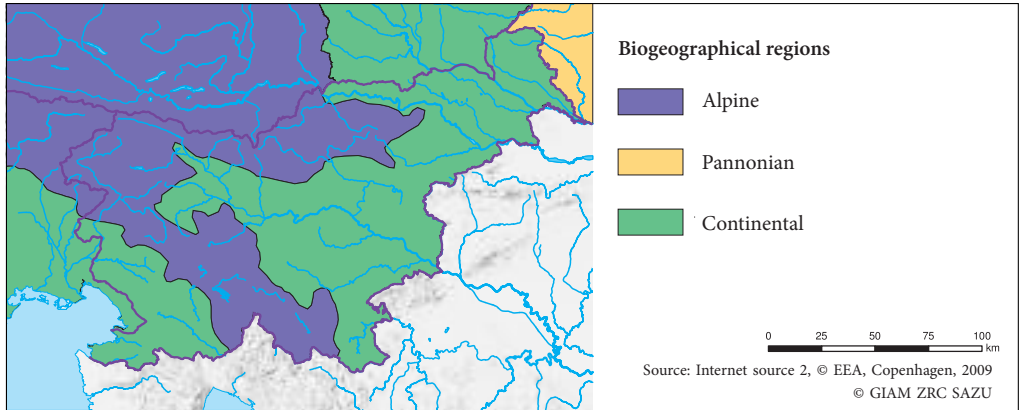


Figure 5: Biogeographical Regions, level 1, 2008 version (Internet 2; © EEA, Copenhagen, 2009).

Boreal, Continental, Macaronesia, Mediterranean, Pannonian, and Steppic. The 2005 division of Europe shows all the European countries from the Ural Mountains to the Caucasus and Turkey. It includes 11 categories; in addition to the ones listed above, it also includes the Arctic and Anatolian regions.

This division is generally based on natural vegetation, but some boundaries also run along the administrative state borders, which is why it deviates from a completely natural division. Some biogeographical regions appear in several spatially separated areas (e.g., the Alpine region in Scandinavia).

According to the 2005 and 2008 divisions, Slovenia is part of the *Continental* and *Alpine* regions, touching the *Pannonian* region in the northeast (the boundary runs along the state border). However, it is surprising that southwestern Slovenia is part of the *Continental* region. In the 2005 map, which shows all the countries, Slovenia also touches the *Mediterranean* region in the southwest.

4.5 The Physical-Geographical Classification of Europe

The German Federal Agency for Nature Conservation prepared the Map of Natural Vegetation of Europe (Germ. *Karte der natürlichen Vegetation Europas*) at the scale of 1 : 2,500,000. This map is based on the Physical-Geographical Classification of Europe, which included climate, rocks, and soil as the main components. Europe was divided into four subcontinents: *Northern Europe, Western and Central*

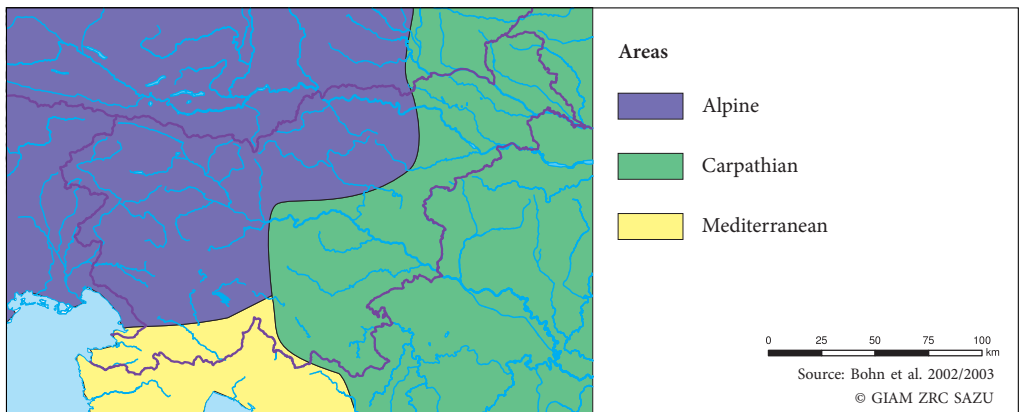


Figure 6: Physical-Geographical Classification of Europe, level 2 (Bohn et al. 2002/2003).

Europe, Southern Europe, and Eastern Europe. These were then divided into nine major areas and 47 physical-geographical regions, which were further divided into subunits or subregions (Bohn et al. 2002/2003, 68, 69). At all levels, this physical-geographical classification is more of a regionalization than a typification. Slovenia is part of two subcontinents, three major areas, and four regions (Figure 6).

4.6 Pan-European Landscape Types

The map of pan-European landscape types at a scale of 1 : 25,000,000 (Meeus 1995) was among the first attempts to represent European landscape diversity (Mücher et al. 2006, 3). Meeus defined 30 categories in Europe, extending to the Ural Mountains and the Caucasus, also including Novaya Zemlya in the north (Meeus 1995, 57). The criteria used included relief forms (as the consequence of the rock base and climate), economic land-use potential, sustainability of human activity, nature preservation, settlement pattern, field pattern, visual impression, and the quality of the view (Meeus 1995, 61–62). The purpose of this typification was to develop the bases for Europe's sustainable development at various levels (Meeus 1995, 57–58).

Meeus (1995) defined 30 landscape types, which he combined into nine groups: *Tundras, Taigas, Highlands and mountains, Bocages, Open fields, Regional landscapes, Steppes, Arid landscapes, and Terrace landscapes.* The division was to be relevant at the level of Europe, and according to the author the typification was merely a rough one (Meeus 1995, 61–62). Regional landscapes are the types that only appear in one or several places thanks to their exceptional natural or cultural features (Meeus 1995, 65).

Almost all of Slovenia (Figure 7) is part of a single landscape type: *the Mediterranean semi-bocage.* The word *bocage* denotes a landscape of mixed meadows and forests (Internet 4). This is an area in a mountain's rain shadow that is cultivated despite the dry climate. The climate is Mediterranean, with diverse land use and predominantly rural settlements (Meeus 1995, 69). Some other types can be found near Slovenia: the *Collective open fields* in the east, the *Delta* type in the west, and the *Mountain* type in the north (Meeus 1995, 63).

4.7 The Terrestrial Ecoregions of the World

The map of the terrestrial ecoregions of the world was designed to improve environmental-protection planning at the global and regional levels. The authors based their work primarily on the biogeographical features of landscapes around the world (Olson et al. 2001, 933).

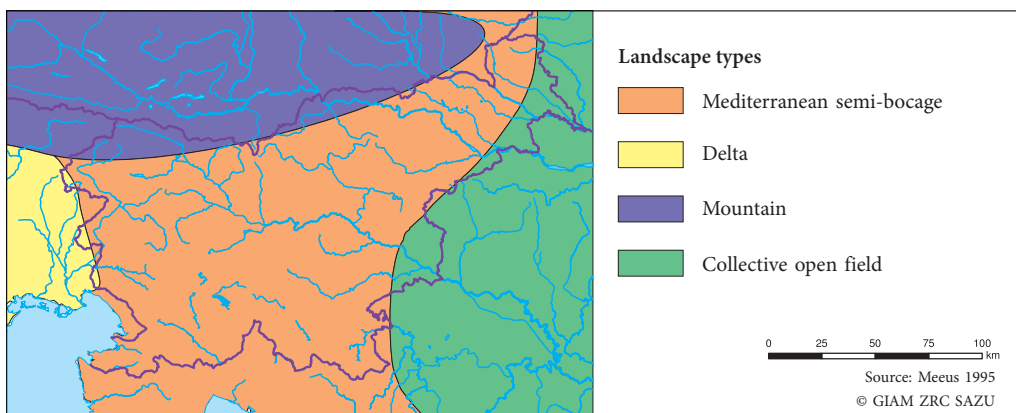


Figure 7: Pan-European Landscape Types, level 1 (Meeus 1995).

Ecoregions were defined as relatively extensive spatial units primarily characterized by special combinations of natural communities and species. The borders between these areas match the natural conditions prior to major changes introduced by man (Olson et al. 2001, 933).

The terrestrial part of the world was divided into eight geographical realms and 14 biomes. Within these, they further defined 867 ecoregions. The geographical realms include *Oceania* (covering the Pacific), *Nearctic* (covering North America), *Neotropic* (covering Central and South America), *Afrotropic* (covering Sub-Saharan Africa), *Palaearctic* (covering Europe and the majority of Asia), *Indo-Malay* (covering South and Southeast Asia), and *Australasia* (covering Australia and part of the islands between Asia and Australia). The biomes (Olson et al. 2001) include the following:

- *Tropical and subtropical moist broadleaf forests,*
- *Tropical and subtropical dry broadleaf forests,*
- *Tropical and subtropical coniferous forests,*
- *Temperate broadleaf and mixed forests,*
- *Temperate coniferous forests,*
- *Boreal forests/taiga,*
- *Tropical and subtropical grasslands, savannas, and shrublands,*
- *Temperate grasslands, savannas, and shrublands,*
- *Flooded grasslands and savannas,*
- *Montane grasslands and shrublands,*
- *Tundra,*
- *Mediterranean forests, woodlands, and scrub,*
- *Deserts and xeric shrublands,*
- *Mangroves,*
- *(Lakes),*
- *(Rock and ice).*

Individual units were defined based on various sources; the DMEER map (see section 4.3) was used for the western Palaearctic region, which also covers Europe. In areas for which no biogeographical divisions were found, the authors relied on relief forms and vegetation. The average size of ecoregions is approximately 150,000 km² (Olson et al. 2001, 934).

Of 14 biomes, three are present in Slovenia (Figure 8):

- *Mediterranean forests, woodland, and scrub,*
- *Temperate broadleaf and mixed forests,*
- *Temperate coniferous forests.*

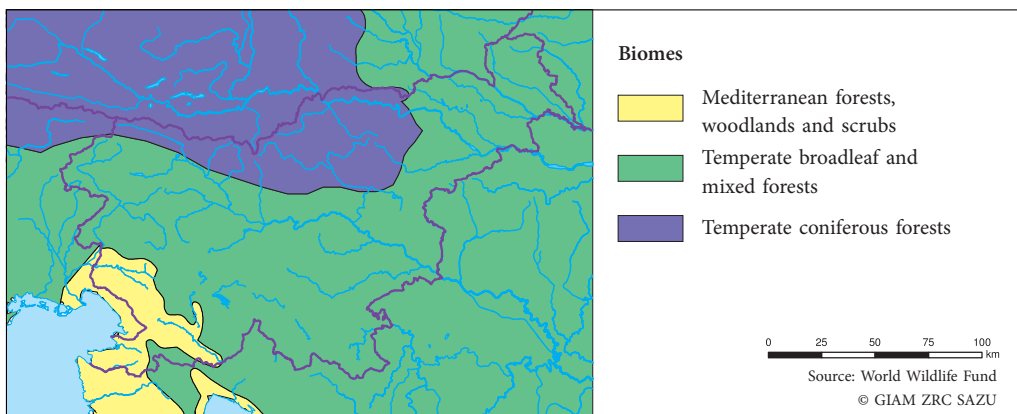


Figure 8: Terrestrial Ecoregions of the World, level 2.

Ecoregions found in Slovenia or its immediate vicinity include the following:

- *Pannonian mixed forests,*
- *Dinaric Mountains mixed forests,*
- *Illyrian deciduous forests,*
- *Alpine coniferous and mixed forests,*
- *Po Basin mixed forests.*

4.8 The Biogeographical Provinces of Europe

The biogeographical provinces of Europe (Figure 9) used in the Europe's Environment report of 1995 are based on Udvardy's Classification of the Biogeographical Provinces of the World (1975).

Almost all of the units are named after geographical names and occur only once. Thus this classification can be placed among regionalizations, although this cannot be done with certainty because of the inconsistencies in naming the units and because the classification is not further divided into smaller units. Slovenia is part of four out of 19 provinces: the *Balkan highland*, *Continental*, *Mediterranean sclerophyll*, and *Central European highlands*. In addition to Europe's biogeographical provinces, the report also showed four biogeographical zones of the EU covering the territory of the EU at that time.

The reason for the smaller number and share of categories in Slovenia is also the fact that the classification also covers northern Africa, Turkey, the eastern Mediterranean, and the area east of the Caspian Sea.

4.9 The Biogeographic Map of Europe and the Bioclimatic Map of Europe

The University of Leon prepared the Biogeographic Map of Europe, which covers the area up to the Arabian Peninsula and the Caspian Sea, and also includes the Canary Islands, Spitsbergen, Novaya Zemlya, and Franz Josef Land. The 1 : 16,000,000 map includes five regions: the *Circumartic*, *Eurosiberian*, *Mediterranean*, *Irano-Turanian*, and *Saharo-Arabian*. The first two regions are further divided into three subregions. The third level contains 30 provinces, and the fourth level contains a total of 71 sectors (Rivas-Martínez, Penas, and Díaz 2009).

All of Slovenia is part of the *Eurosiberian region* and the *Alpino-Caucasian subregion*, which is further divided into the *Alpine* and the *Apennine-Balkan* provinces. At the lowest level it is part of the *Eastern Alpine*, *Illyrian*, and *Padanian* sectors (Figure 10).

The *Bioclimatic Map of Europe* (Figure 11) at a scale of 1 : 16,000,000 was prepared in addition to the *Biogeographic Map of Europe*; this map contains three levels. Europe was divided into four macro-

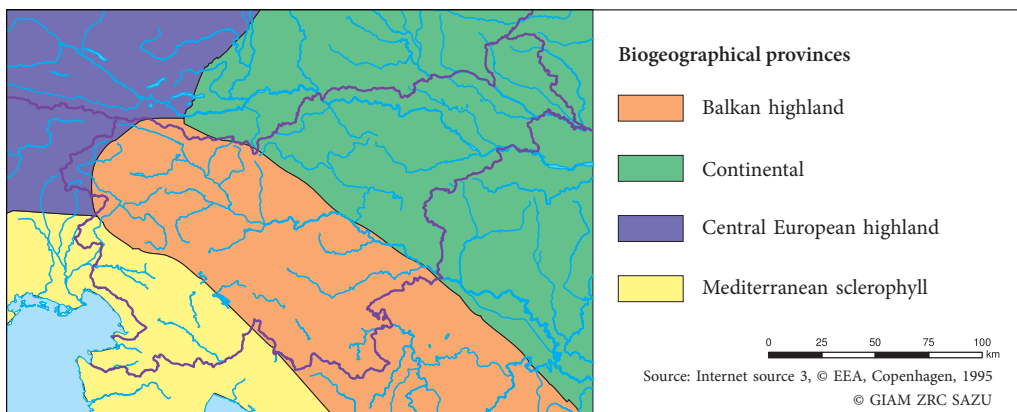


Figure 9: The Biogeographical Provinces of Europe, level 2 (Internet 3; © EEA, Copenhagen, 1995)

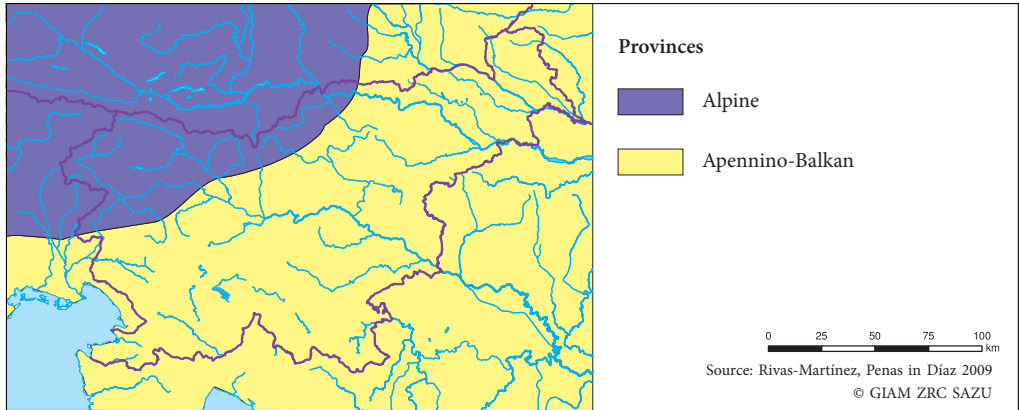


Figure 10: Biogeographic Map of Europe, level 3 (Rivas-Martínez, Penas, and Díaz 2009).

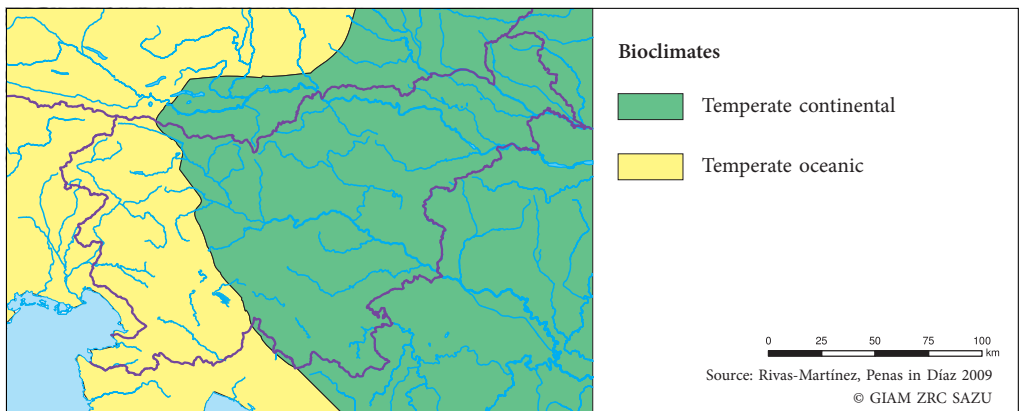


Figure 11: Bioclimatic Map of Europe, level 2 (Rivas-Martínez, Penas, and Díaz 2009).

bioclimatic units: the *Polar*, *Boreal*, *Temperate*, and *Mediterranean*; these are further divided into 16 bioclimatic units with certain variants for some (Rivas-Martínez, Penas, and Díaz 2009).

Western Slovenia is part of the *Temperate Oceanic* bioclimate and eastern Slovenia is part of the *Temperate Continental* bioclimate. The border between them runs across the Sava Valley, west of Ljubljana, and then in the Dinaric direction towards the southeast. By comparing both maps one can get a better idea of the natural conditions in Slovenia.

5 Comparing the divisions

In determining the number of units presented in Slovenia in various divisions, the surrounding areas or units touching Slovenia were also taken into account due to the various methods used for defining the borders between units. Table 1 shows individual divisions and the number of categories by individual level. The number of categories occurring in Slovenia is given in parentheses.

At the highest levels, Slovenia is part of various units (types or regions). The names of these units are based on geographical names and the names of the vegetation type, climate, and other natural factors. The following geographical names of major geographical units and their derivatives are most common

Table 1: Overview of selected features of divisions of Europe.

	Name (source) of division	Number of all categories (number of categories in Slovenia)				Prevailing type (method) of division	Unit names
		Level 1	Level 2	Level 3	Level 4		
1	Environmental Stratification of Europe (Mücher et al. 2003; Metzger et al. 2005; Jongman et al. 2006)	2 (2)	6 (3)	13 (5)	84 (12)	Upper level: regionalization, lower level: typification	<i>Biogeographic regions: Mediterranean, Continental, Alpine</i>
2	European Landscape Classification LANMAP2 (Mücher et al. 2003; 2006; 2010)	8 (3)	31 (8)	76 (12)	350 (19)	Upper level: regionalization, lower level: typification	<i>Types: Mediterranean, Continental, Alpine</i>
3	Digital Map of European Ecological Regions (Internet 1)	68 (5)	–	–	–	Typification	<i>Ecological regions: Dinaric Mountains mixed forests, Illyrian deciduous forests, Alpine conifer and mixed forests, Pannonian mixed forests, Po Basin mixed forests</i>
4	Biogeographical Regions (Internet 2)	9 (3)	–	–	–	Typification	<i>Biogeographical regions: Continental, Alpine, Pannonian</i>
5	Physical-Geographical Classification of Europe (Germ. <i>Physisch-geographische Gliederung Europas</i>) (Bohn et al. 2002/2003)	4 (2)	9 (3)	47 (4)	–	Regionalization	<i>Areas: Alpine, Carpathian, Mediterranean</i>
6	Pan-European Landscape Types (Meeus 1995)	9 (4)	30 (4)	–	–	Typification	<i>Landscape types: Mediterranean semi-bocage, Delta, Mountain, Collective open field</i>
7	Terrestrial Ecoregions of the World (Olson et al. 2001)	8 (1)	14 (3)	867 (5)	–	The highest level: regionalization, lower levels: typifications	<i>Biomes: Mediterranean forests, woodlands and scrubs, Temperate broadleaf and mixed forests, Temperate coniferous forests</i>
8	Biogeographical Provinces of Europe (Internet 3)	4 (–)	19 (4)	–	–	Regionalization	<i>Biogeographical provinces: Balkan highland, Continental, Central European highland, Mediterranean sclerophyll</i>
9A	Biogeographic Map of Europe (Rivas-Martínez, Penas, and Díaz 2009)	5 (1)	<i>Subregions in places</i>	30 (2)	71 (3)	Upper levels: typification, lower level: regionalization	<i>Provinces: Alpine, Apennine-Balkan</i>
9B	Bioclimatic Map of Europe (Rivas-Martínez, Penas, and Díaz 2009)	4 (1)	16 (2)	<i>Versions in places</i>	–	Typification	<i>Bioclimates: Temperate continental, Temperate oceanic</i>

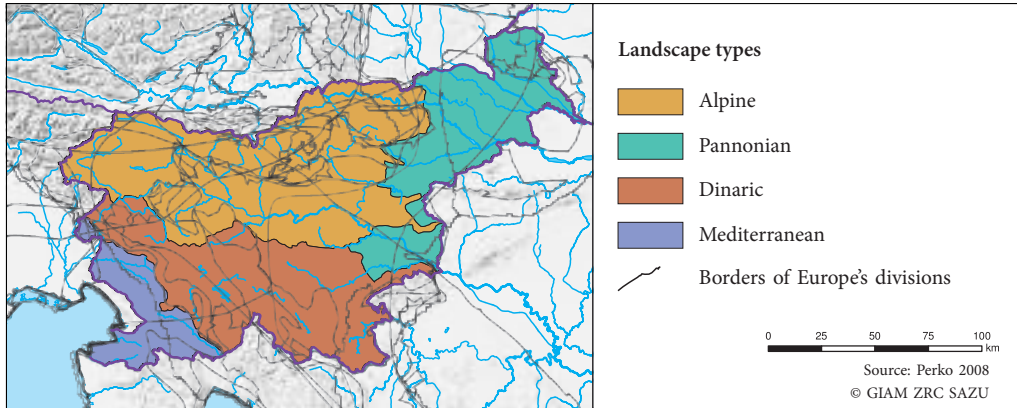


Figure 12: Interconnection of borders of the examined divisions of Europe compared to the geographical typification of Slovenia (Perko 2008).

(listed in the adjectival form): Alpine, Mediterranean, Continental, Pannonian, Balkan, Illyrian, Padanian, Dinaric, Carpathian, Central European, and Apennine. The analysis of names did not take into account the Map of Potential Vegetation and the Bioclimatic Map, which are typifications based on a single physical-geographical element (vegetation or climate). The same applies to the levels that include the cardinal points in their names (e.g., Southern Europe) and levels that only classify Slovenia in one unit.

The map showing the borders of the divisions' types or regions indicates how these divisions of Europe differ from one another and how insignificantly they approximate the established Slovenian geographical typification of Slovenia (Figure 12).

6 Conclusion

Even though these geographical typifications and regionalizations of Europe have been developed for various purposes, using various methods, and based on various factors, minor differences were nonetheless expected between them with regard to Slovenia (Figure 2). The majority only partly approximate the geographical typification of Slovenia (Perko 2008), which shows Slovenia's actual geographical features relatively well.

On the other hand, these great differences between the divisions of Europe confirm the findings of Slovenian geographers regarding how difficult it is to typify and regionalize a country with such a wide variety of landscapes as Slovenia. This is further confirmed by the fact that, despite Slovenia's small area, which accounts for less than one percent of the territory in the majority of European divisions, its share of types or regions is several times larger than the share of its size in all of Europe.

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