

MAPPING THE CHANGES IN THE POPULATION CHARACTERISTICS OF MONTENEGRO AFTER THE DECLARATION OF INDEPENDENCE

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ABSTRACT

The disintegration of the Federal Republic of Yugoslavia (Serbia and Montenegro) affected Montenegro, which was once part of it. Some geographical changes were positive after the breakup, some were not. Today, the Republic of Montenegro is a candidate for membership of the European Union and a member of NATO. The paper analyzes the changes in the characteristics of the population of the Republic of Montenegro while it was part of Yugoslavia (Serbia and Montenegro) and after independence. The data is used from Statistical Yearbooks from 1948 to 2011. For digital mapping ArcGis 10.2 is used with Kriging statistical analyse. In addition to depopulation, Montenegro is also facing intense population emigration, especially from the northern regions that are close to the border with Serbia. The plan is to hold the next population census, which should show a decrease in the number of inhabitants and an increase in the average age. This population declining is a problem which dealing most of Western Balkan countries.

Keywords: *Montenegro, population, ArcGis, independence*

INTRODUCTION

Montenegro is a country in Southeastern Europe, located on the Balkan Peninsula and lying on the coast of the Adriatic Sea. It borders Serbia to the east and northeast, Croatia and Bosnia and Herzegovina to the west and northwest, and Albania to the southeast. In the southwest, the Adriatic Sea separates it from Italy (Bakić, 1996).

The territory of Montenegro occupies approximately 13,812 km², the length of the coast is 293.5 km. The geographical coordinates are 42° 47' N and 19° 28' E, while the average altitude is 1000 m (Mračević, 2017).

In the midst of the dilemma surrounding the eventual holding of the population census in Montenegro, we would point out the necessity of the census as an indicator for a better understanding of the demographic situation in Montenegro (Bakić, 1975; Bakić, 1977).

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After 88 years as part of Yugoslavia, Montenegro got its independence. The border is drawn between this country and Serbia with its diverse population. The border is not homogeneous. In the northern municipalities of Montenegro, mostly Serbs live, while in the municipalities in the southwestern part of Serbia, the population declares itself as Bosniak to a greater extent (Đokić, 2011).

The declaration of independence had an impact on the massive depopulation of the population of Montenegro, primarily through reduced emigration to Serbia (Bošković, 2002).

METHODOLOGY

Data from statistical yearbooks were used in the paper. Statistical yearbooks from 1948 to these days (Rodić, 1994). Territories of municipalities changed a bit, but territory of Socialist Republic of Montenegro within Socialist Federative Republic of Yugoslavia remained the same (Statistički godišnjaci SFRJ 1948-1991). For statistical analyses, ArcMap software were used, with Kriging geostatistical method. Data from individual censuses were processed, as well as a comparison of the results of different censuses.

RESULTS AND DISCUSION

As for the number of inhabitants of Montenegro, censuses have been conducted since 1948, and eight censuses have been conducted to date.

Table 1. Number of inhabitants in Montenegro for the period 1948-2011.

Year	1948.	1953.	1961.	1971.	1981.	1991.	2003.	2011.
Number of inhabitants	377.189	417.248	471.894	529.604	584.310	591.197	620.145	619.399

Source: www.monstat.org

According to the census from 1948, the number of inhabitants in Montenegro was over 377,000, and according to the last census from 2011, that number increased to over 620,000, whereby the population of Montenegro has almost doubled in the last 60 years.

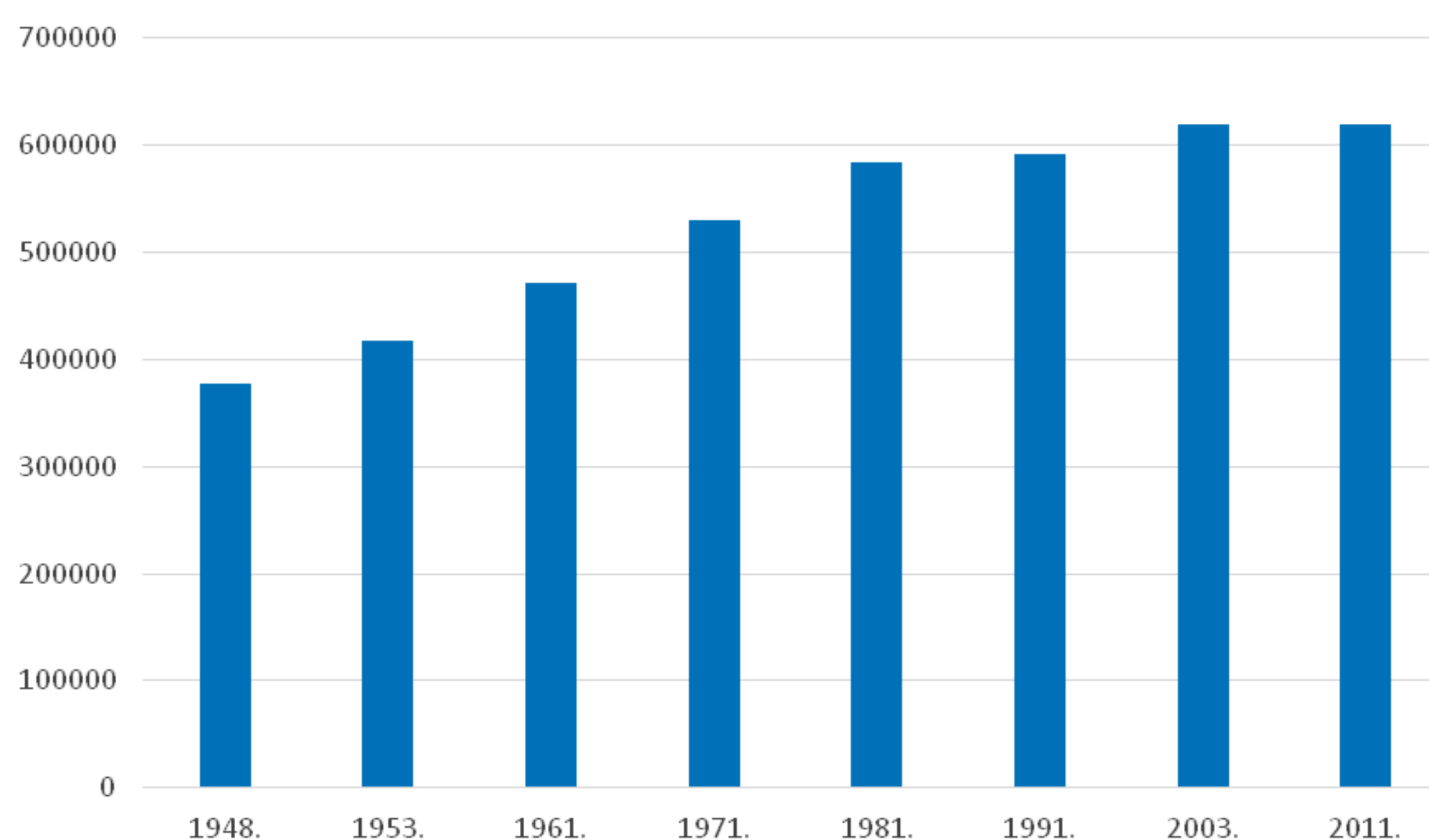


Figure 1. Number of inhabitants of Montenegro for the period 1948-2011.

Source: www.monstat.org

At the time when the last census was conducted in SFRY (in 1991), Montenegro had 591,197 inhabitants.

The most populated municipalities according to the 1991 census are: Podgorica - 145,696 inhabitants, Nikšić - 73,878 inhabitants and Bijelo Polje - 54,437 inhabitants, while the least populated municipalities are: Plužine - 5,219 inhabitants, Žabljak - 4,900 inhabitants and Šavnik - 3,680 inhabitants.

As we can see on figure 2, only three municipalities had over 50,000 inhabitants, namely: Podgorica, Nikšić and Bijelo Polje.

The most populated region in 1991 was the central region, because it also contains the two largest urban centers of Montenegro, Nikšić and Podgorica. The southern part of the northern region was the least populated.

The average population density in Montenegro in 1991 was 42.8 people/km². The most densely populated municipality was Tivat with 242.30 people/km², and the least populated was the municipality of Plužine with 6.11 people/km².

As can be clearly seen on figure 3, the most densely populated region in 1991 was the coastal region, while the northern part of the central region was the least populated (Stanković, 2017; .

The first and only census in the state union of Serbia and Montenegro was conducted in 2003, and in that census the population of Montenegro was 620,145 or 28,984 more.

According to the 2003 census, the most and least populated municipalities are the same as in 1991 with the following number of inhabitants: Podgorica - 169,132, Nikšić - 75,282, Bijelo Polje - 50,284, and Plužine - 4,272, Žabljak - 4,204, Šavnik - 2,947.

The most populated cities have not changed, but their population has. Podgorica increased its population by 23,436, while the population of Nikšić increased by 1,404. Bijelo Polje suffered a population decrease of 4,153 inhabitants.

Also, the least populated municipalities have changed the number of inhabitants. Plužine lost 947 inhabitants, Žabljak 696, and Šavnik 733. The reason for this state of affairs lies in the age structure of the population, the mentioned three municipalities have the oldest population in Montenegro in both censuses.

Again, as in 1991, the central region of Montenegro is the most populated, and the southern part of the northern region is the least populated.

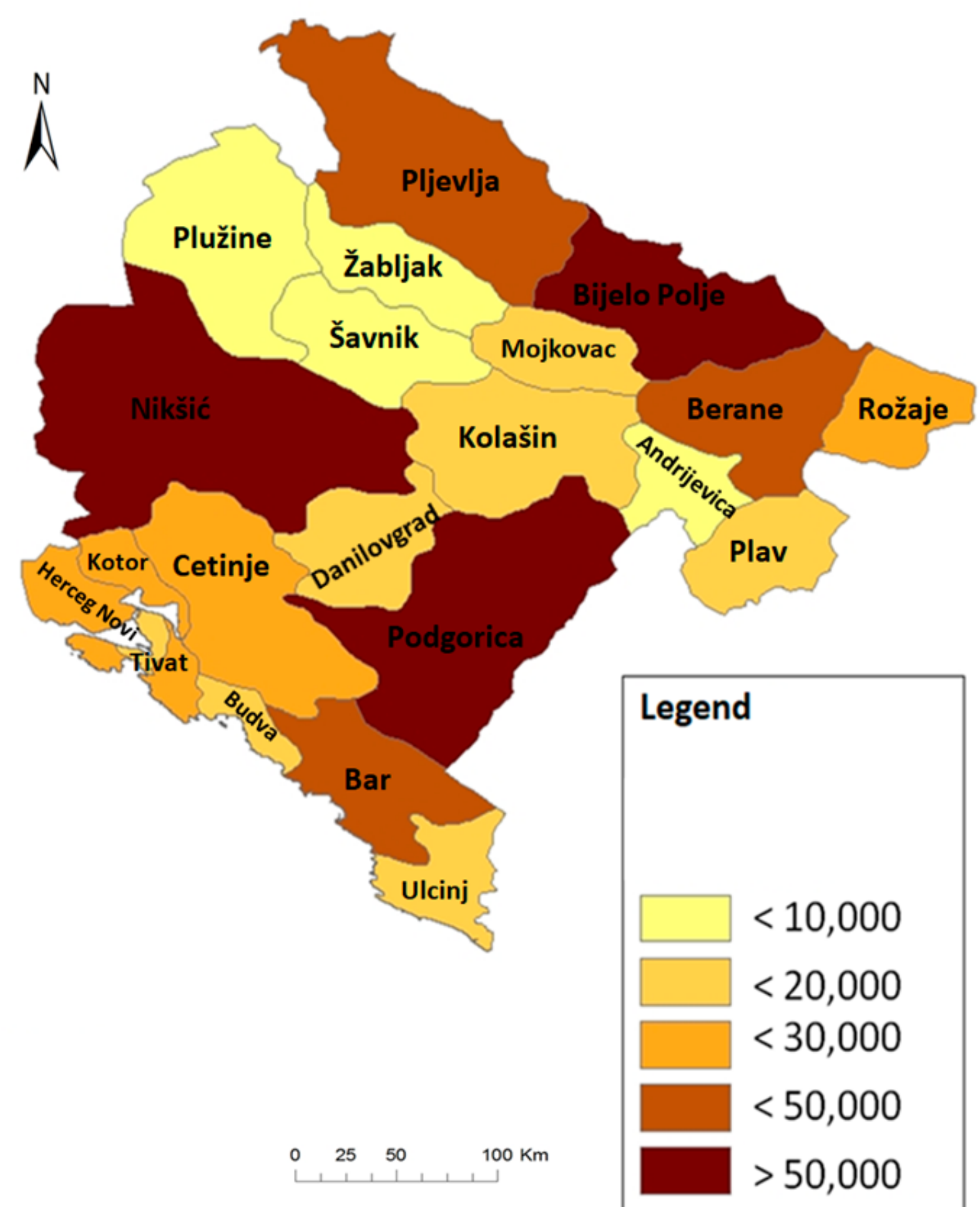


Figure 2. Number of inhabitants by municipalities of Montenegro according to the 1991 census

Source: Nemanja Alimpić, ArcMap

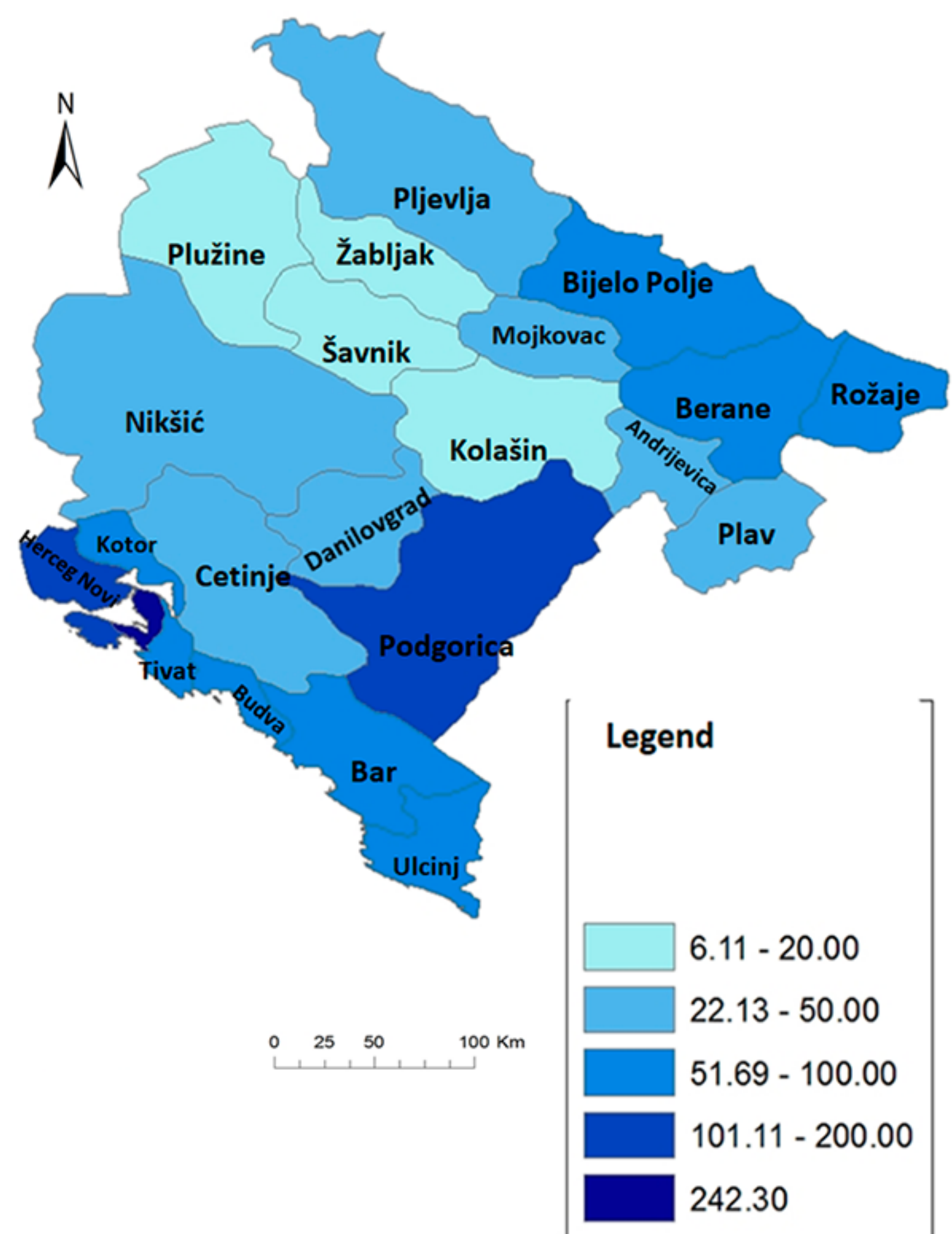


Figure 3. Population density of Montenegro in 1991

Source: Nemanja Alimpić, ArcMap

The average population density in Montenegro in 2003 increased to 44.9 people/km². The most densely populated municipality was Tivat with 296.30 people/km², and the least populated was the municipality of Plužine with 5.00 people/km², the same as in 1991.

As already mentioned, in the period from 1991 to 2003, Montenegro increased its population by a total of 28,948 inhabitants or by 4.9%.

The percentage of the population increased the most in the municipalities: Budva - 38%, Herceg Novi - 22% and Tivat - 22%, and the municipalities where the most drastic decrease was recorded were: Žabljak - -14%, Plužine - -18% and Šavnik - -20% of the total population in two censuses.

The first census of the independent Republic of Montenegro was held in 2011. The total number of inhabitants according to the 2011 census was 619,399 inhabitants or 746 inhabitants less than the 2003 census.

According to the 2011 census, the most and least populated municipalities are the same as in 1991 and 2003 with the following number of inhabitants: Podgorica - 185,937, Nikšić - 72,443, Bijelo Polje - 46,051, i.e. Žabljak - 3,569, Plužine - 3,246, Šavnik - 2,070.

On Figure 6, municipalities with an increase in population are marked in dark blue, and municipalities with a decrease in population are marked in light blue. From the attached we can see that the entire coastal and almost the entire central region increased its population, except for the municipality of Cetinje. Almost the entire northern region experienced a decline in population, except for the municipality of Rožaje. The most significant reason is the religious and national structure of the municipality, which differs from most other municipalities in the northern region.

The number of inhabitants of Podgorica, as the capital and center of Montenegro, increased by 16,805 inhabitants compared to 2003, that is, by 39,968 inhabitants compared to the 1991 census. Nikšić and Bijelo Polje, as the next two largest municipalities, suffered a decrease in the total number of inhabitants. The number of inhabitants in Nikšić is lower by 2,839 compared to the 2003 census, and by 1,435 compared to the 1991 census. Bijelo Polje suffered an even greater loss of population, more precisely 4,233 fewer inhabitants than in the 2003 census, or 8,386 fewer inhabitants than in the 1991 census.

The most sparsely populated municipalities also suffered additional depopulation. Žabljak has a smaller population by 635 compared to the 2003 census, or by

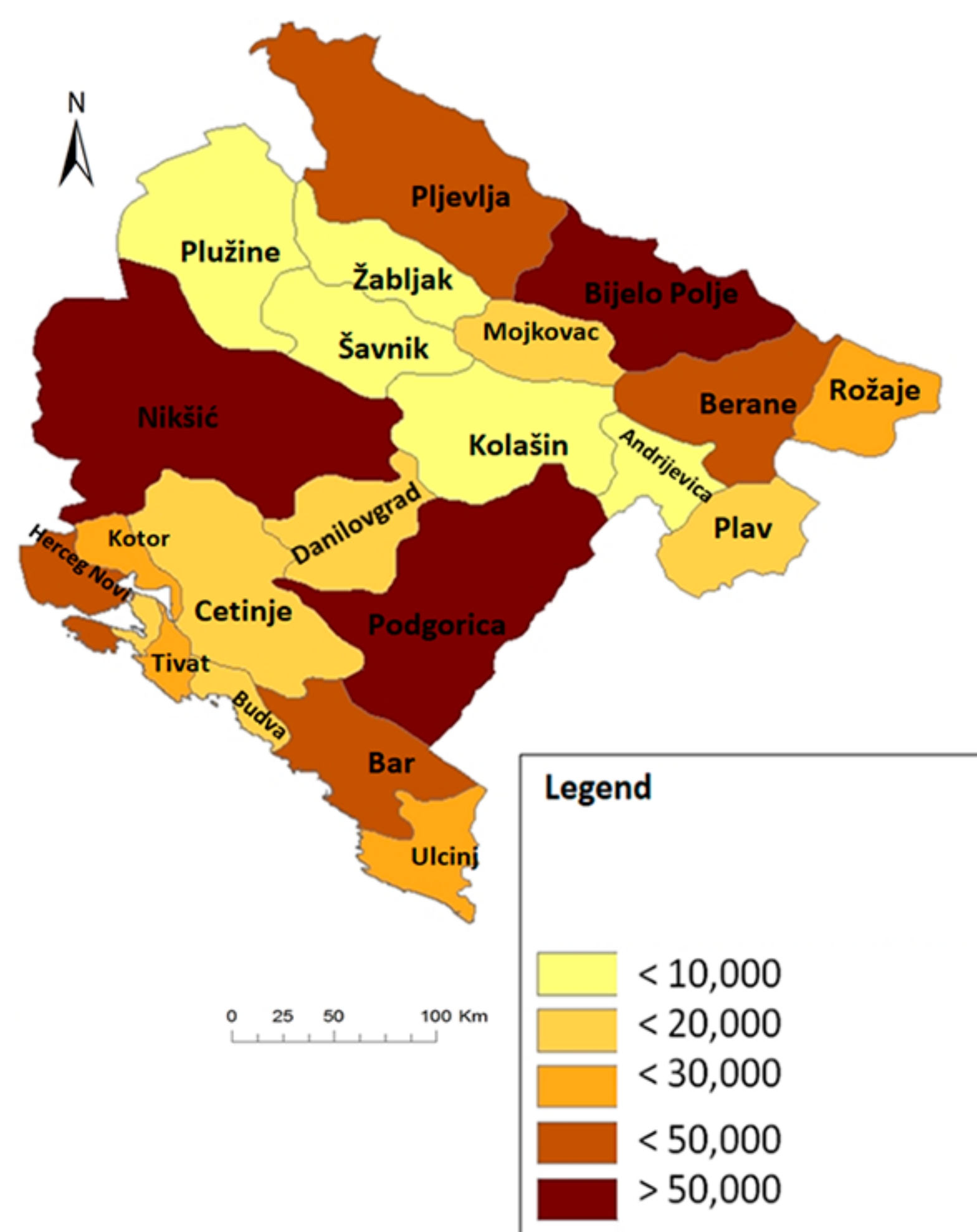


Figure 4. Number of inhabitants of Montenegro according to the 2003 census
Source: Nemanja Alimpić, ArcMap

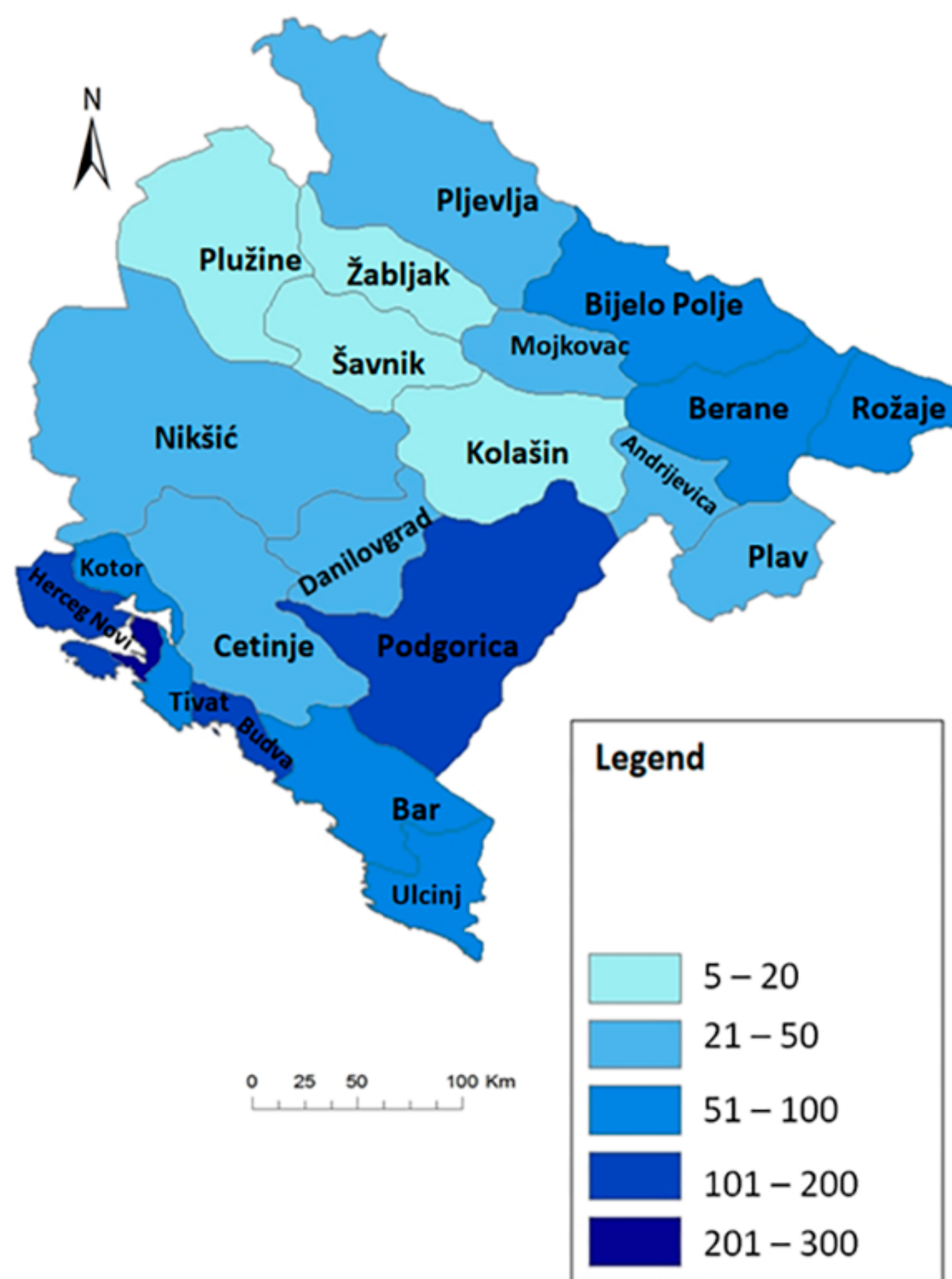


Figure 5. Population density of Montenegro in 2003
Source: Nemanja Alimpić, ArcMap

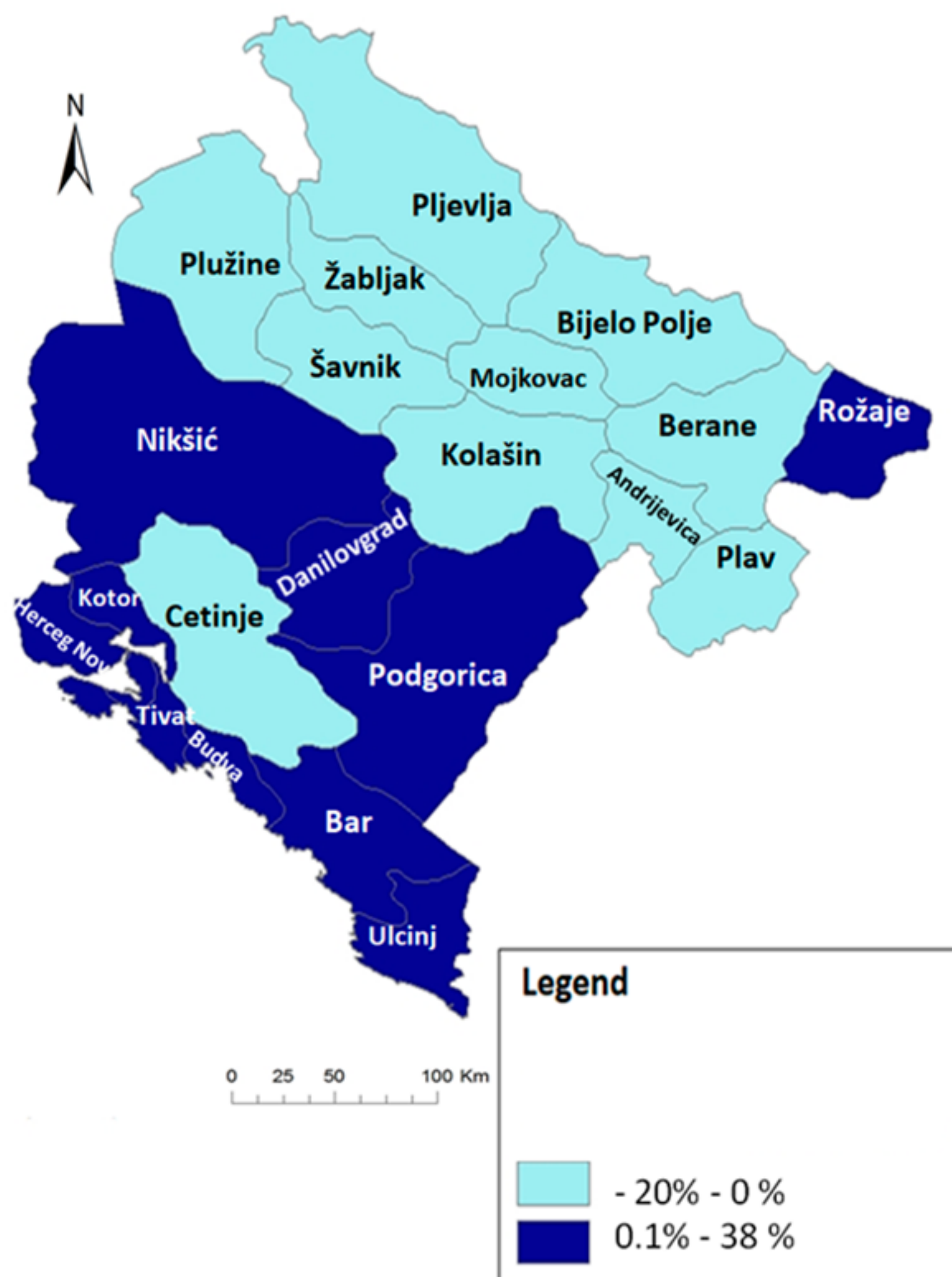


Figure 6. Decline or increase in the number of inhabitants in relation to the censuses from 1991 to 2003.

Source: Nemanja Alimpić, ArcMap

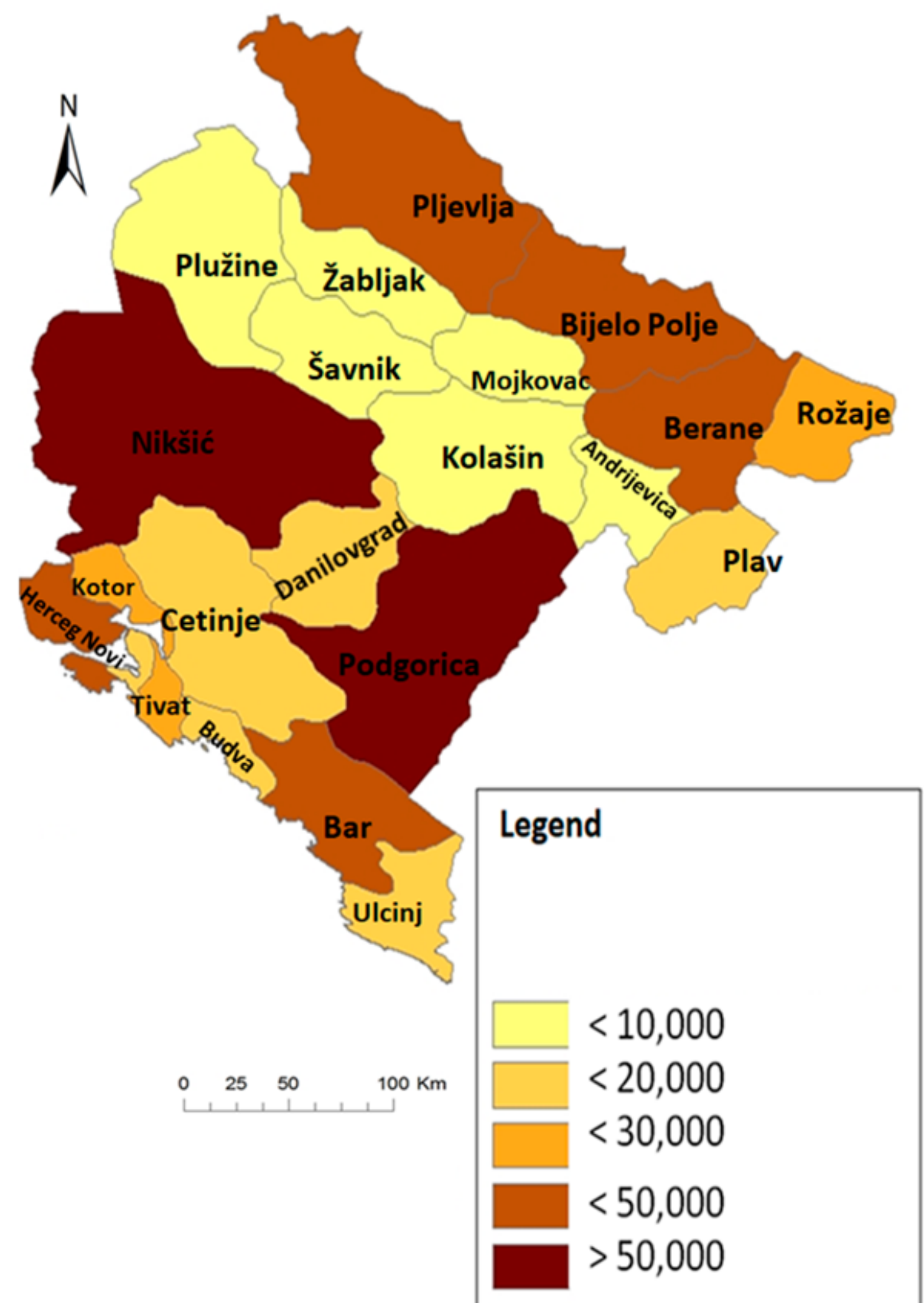


Figure 7. Number of inhabitants of Montenegro according to the 2011 census

Source: Nemanja Alimpić, ArcMap

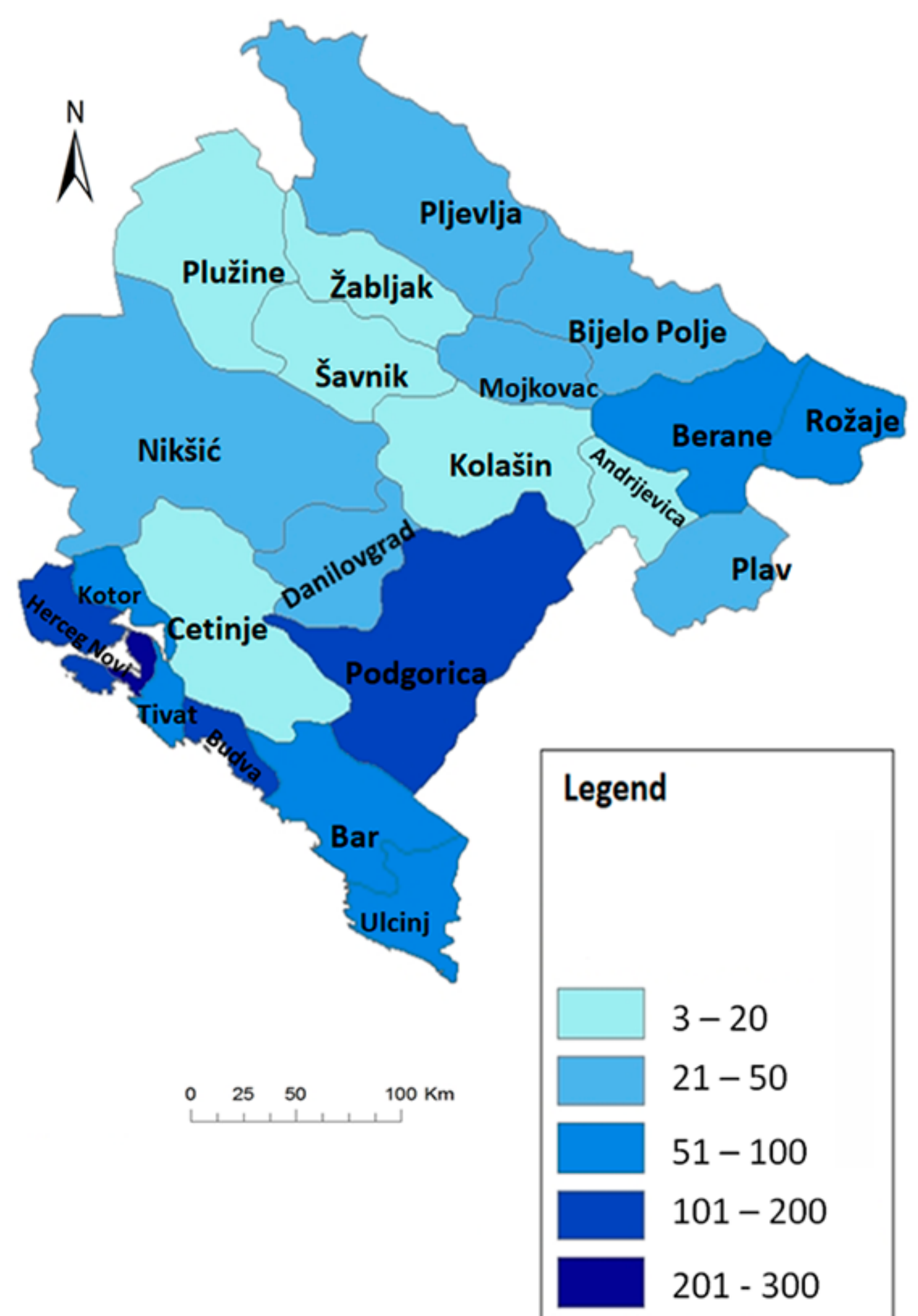
1,331 compared to the 1991 census. Between 2003 and 2011, Plužine lost 1,026 inhabitants, and between 1991 and 2011, almost 2,000, or more precisely 1,973 inhabitants. Šavnik has suffered the most significant decrease, and it is also in last place in terms of population in this census. The municipality decreased by 877 inhabitants between the two last censuses, i.e. by 1,610 inhabitants between the last census in SFRY and the first census in the independent republic.

The average population density in Montenegro in 2011 was 44.8 people/km². The most densely populated municipality was again the municipality of Tivat with 305.02 persons/km², and the least populated was the municipality of Šavnik with 3.74 persons/km².

In the period from 2003 to 2011, Montenegro decreased its population by a total of 746 inhabitants or by 0.12%. The municipalities with the highest percentage increases were: Budva - 24%, Danilovgrad - 12%, Podgorica - 11%, while the municipalities with the most drastic decrease were: Kolašin - -15%, Plužine - -23%, Šavnik - -29%.

Figure 8. Population density of Montenegro in 2011

Source: Nemanja Alimpić, ArcMap



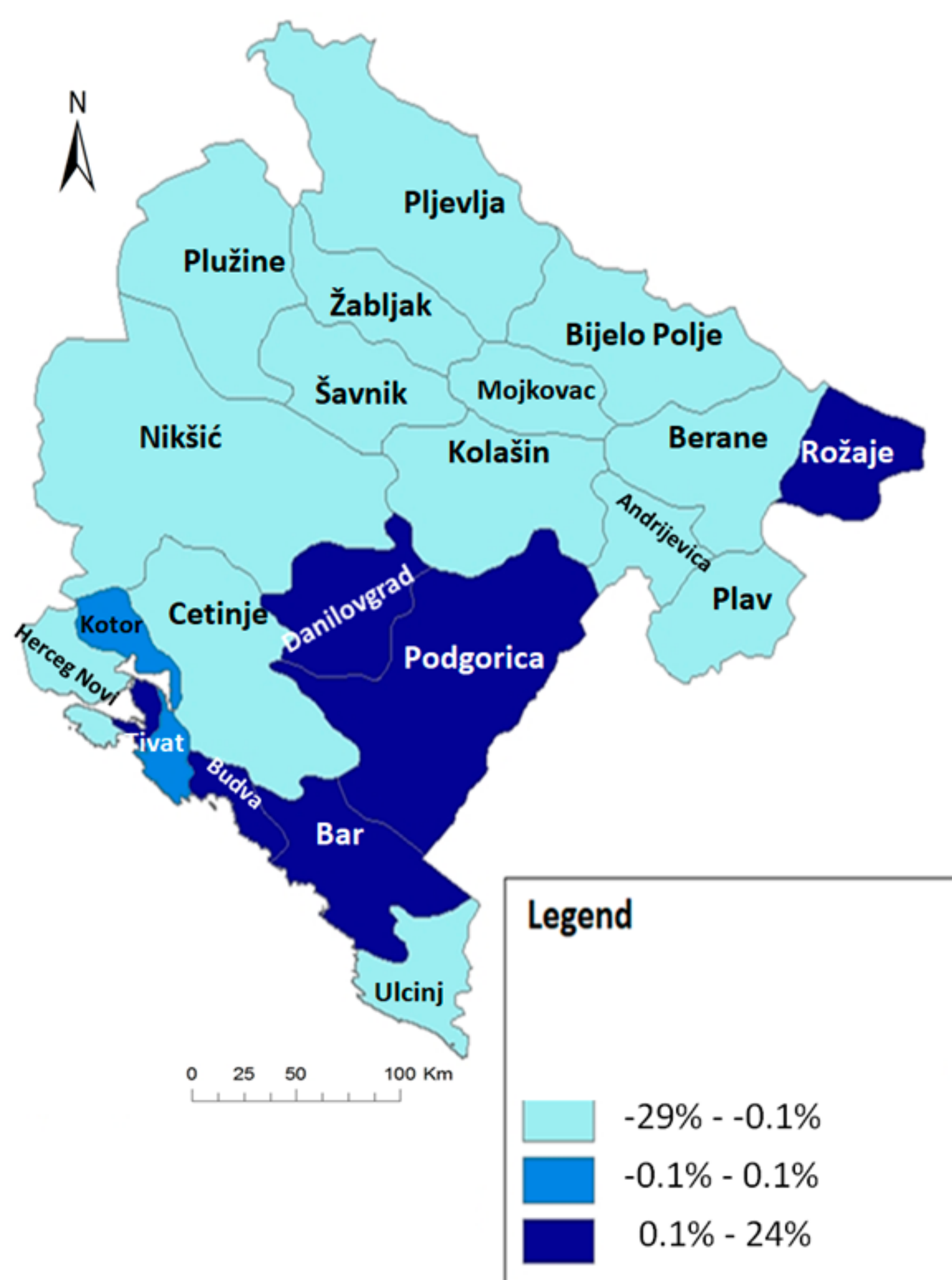


Figure 9. Decrease or increase in the number of inhabitants of Montenegro in 2011 compared to 2003
Source: Nemanja Alimpić, ArcMap

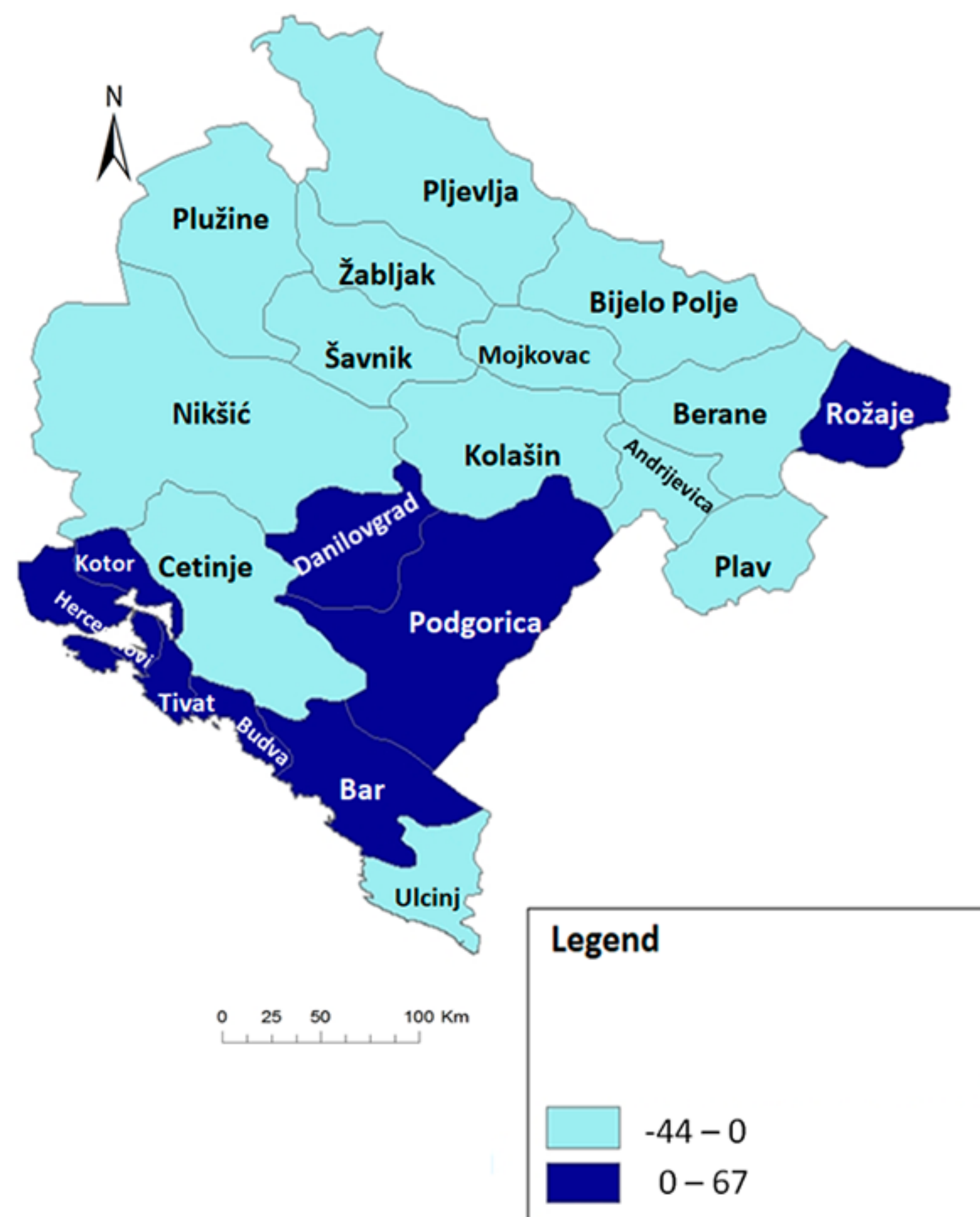


Figure 10. Decline or increase in the number of inhabitants in 2011 compared to the 1991 census
Source: Nemanja Alimpić, ArcMap

In the period from 1991 to 2011, Montenegro increased its population by a total of 28,202 inhabitants or by 4.77%. The municipalities that increased the most percentages were: Budva - 67%, Podgorica - 28% and Tivat - 28%, and the municipalities where the most drastic decrease was recorded were: Žabljak - -27%, Plužine - -38% and Šavnik - -44%.

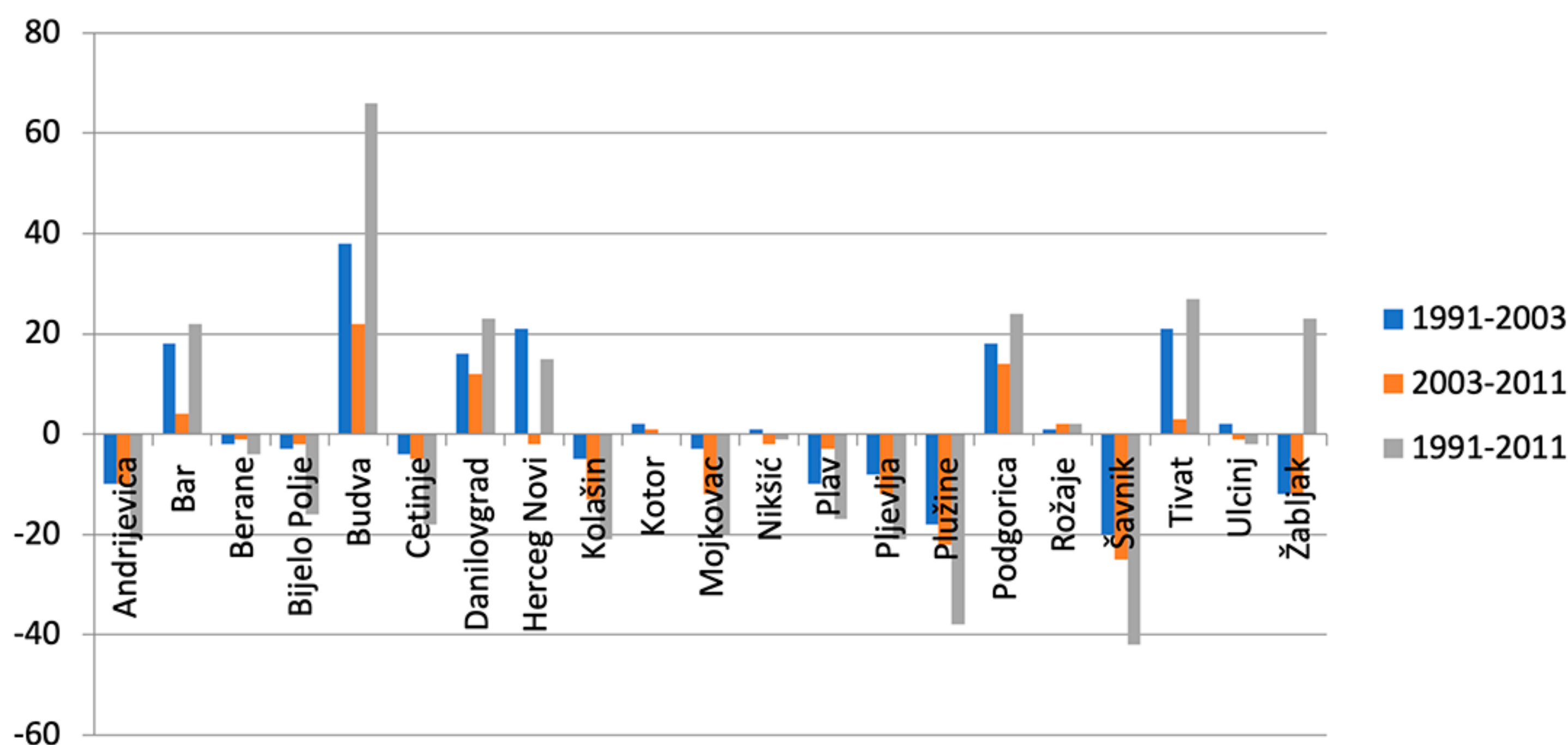


Figure 11. Overall presentation of the decrease or increase in the number of inhabitants for the period from 1991 to 2011 by municipalities of Montenegro
Source: Nemanja Alimpić, Microsoft Excel

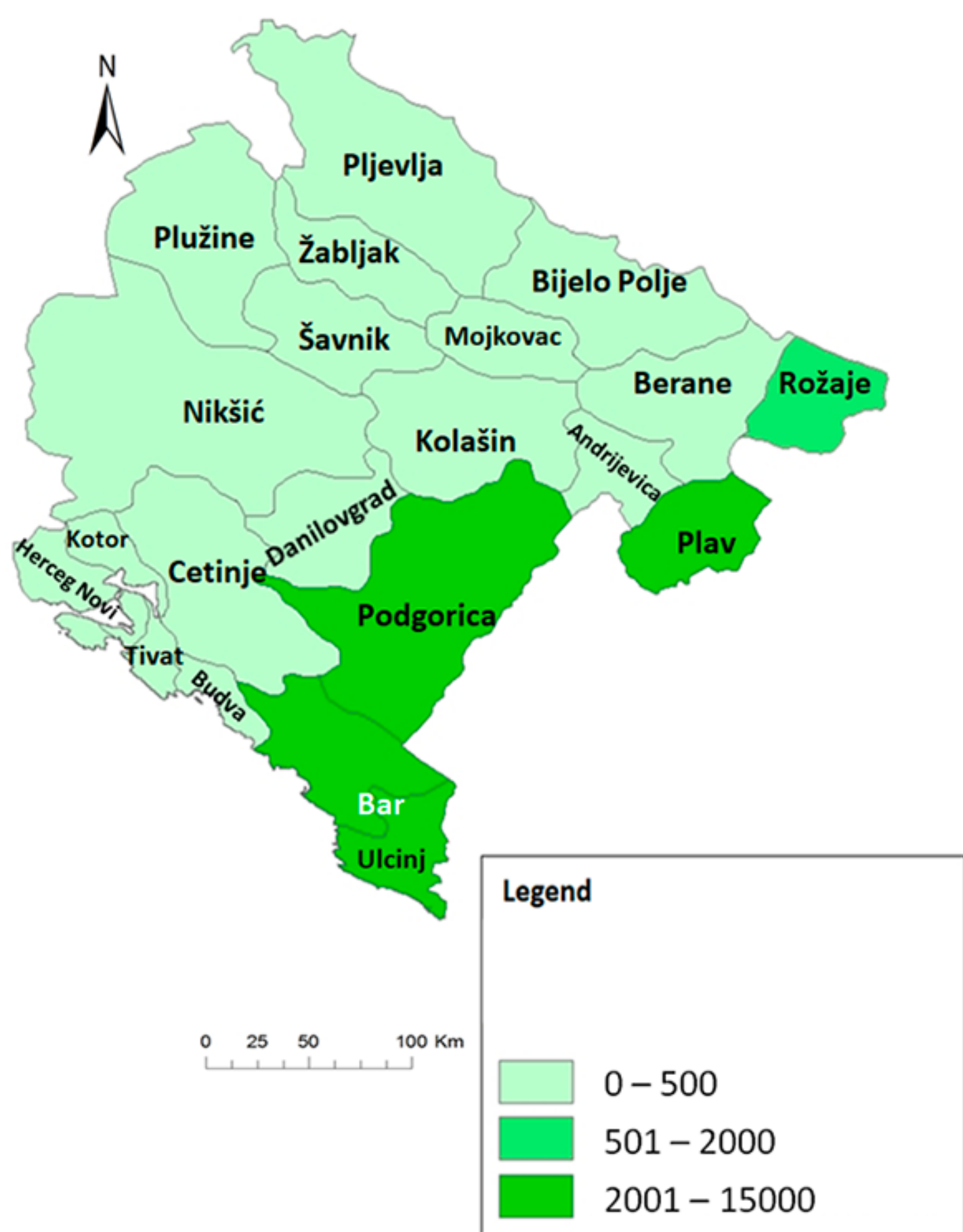


Figure 12. Number of Albanians in Montenegro
Source: Nemanja Alimpić, ArcMap

Montenegro is a multi-ethnic and multi-confessional country. Dozens of different nations and religions live in it (Dymarski, 2017). This paper will present the five most numerous nationalities that, according to the 2011 census, live in Montenegro.

The total number of Albanians in Montenegro is 30,439 inhabitants or 4.91% of the total population. The municipalities with the most Albanian population are: Ulcinj - 14,076, Podgorica - 9,538 and Bar - 2,515 inhabitants. On Figure 12, we see that the Albanian population is concentrated on the eastern borders of Montenegro towards Albania and Serbia.

The number of Bosnians (Bosniaks+Bosnian Serbs+Bosnian Croats+Bosnians) in Montenegro is 54,198 inhabitants or 8.75% of the total population. The municipalities with the largest Bosnian population are: Rožaje - 19,294, Bijelo Polje - 12,682 and Plav - 6,808 inhabitants. On Figure 13, we see that the Bosnian population is concentrated in the northeast of Montenegro, that is, towards the border with Serbia (Raška region and Metohija) (Pejović et al., 2017; Raković, 2017).

The total number of Croats in Montenegro is 6,021 inhabitants or 0.97% of the total population. The municipali-



Figure 13. Number of Bosnians in Montenegro by municipality
Source: Nemanja Alimpić, ArcMap

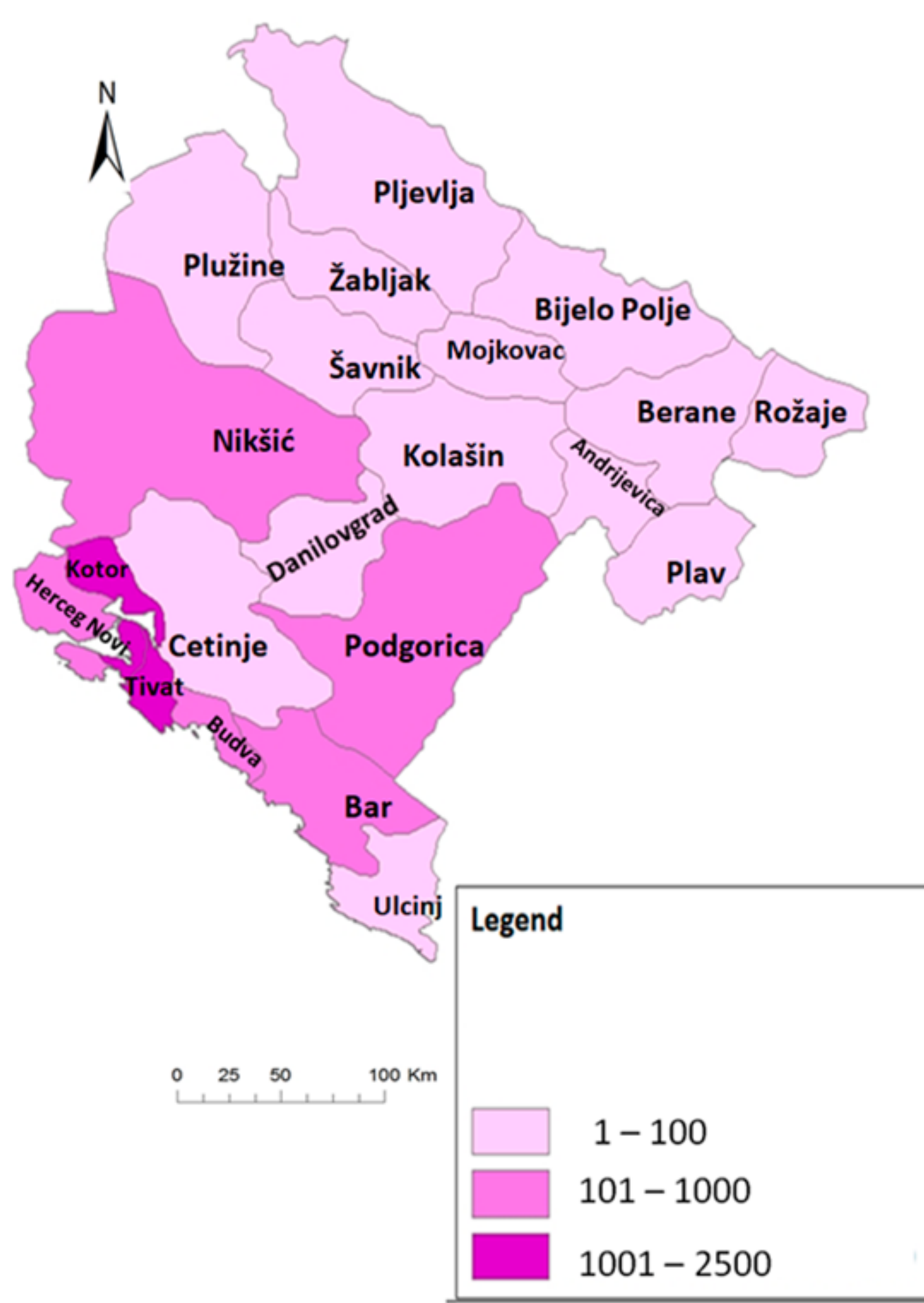


Figure 14. Number of Croats in Montenegro by municipality
Source: Nemanja Alimpić, ArcMap

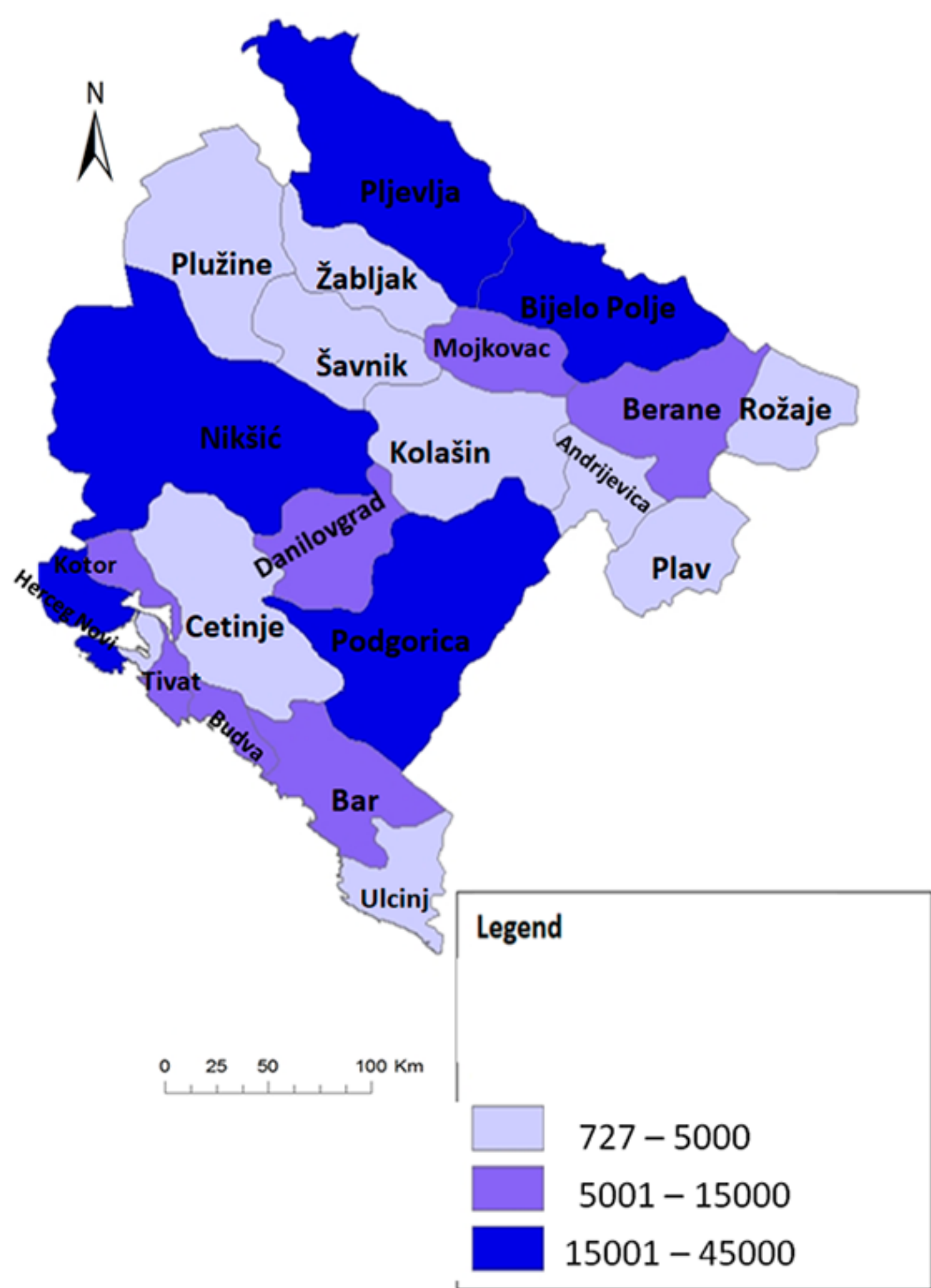


Figure 15. Number of Serbs in Montenegro by municipality

Source: Nemanja Alimpić, ArcMap

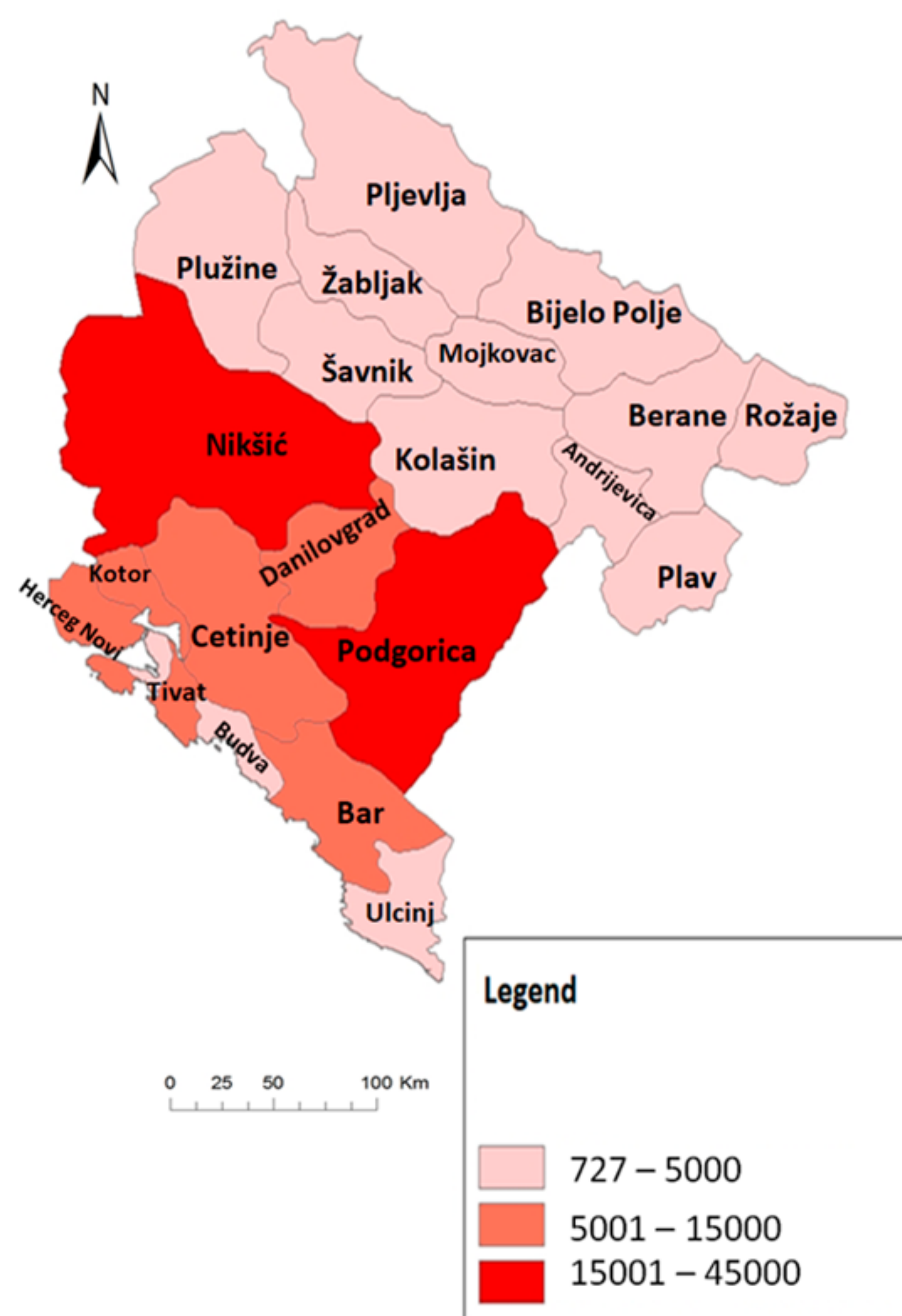


Figure 16. Number of Montenegrins in Montenegro by municipality

Source: Nemanja Alimpić, ArcMap

ties with the largest Croatian population are: Tivat - 2,304, Kotor - 1,553 and Podgorica - 664 inhabitants. The Croatian population is most present on the coast and on the border with Bosnia and Herzegovina and Croatia, as we can see on Figure 14.

The total number of Serbs (Serbs+Serbs-Montenegrins) in Montenegro is 180,110 inhabitants or 29.08% of the total population. The municipalities with the highest Serbian population are: Podgorica - 43,248, Nikšić - 18,334 and Pljevlja - 17,569 inhabitants. The Serbian population is most present in the northern municipalities of Montenegro, except for the municipality of Rožaje, in Podgorica, Nikšić and on the coast (Morić, 2013). In the southern municipalities of the northern region, the Serbian population is also predominant, but this is not clearly visible on Figure 15 due to the small number of inhabitants of those municipalities (Šavnik, Plužine, Žabljak, Andrijevica, Kolašin).

The total number of Montenegrins (Montenegros + Montenegrins-Serbs) in Montenegro is 278,865 inhabitants or 45.02% of the total population. The municipalities with the highest Montenegrin population are: Podgorica - 106,642, Nikšić - 46,149, Bar - 19,553 inhabitants.

Those who identify themselves as Montenegrins or Montenegrin-Serbs are mostly concentrated in the central region and certain regions on the coast, as can be seen on Figure 16. Making a statement on the national issue in Montenegro is still quite debatable and complex today (Lješević, Doderović, 2020).

Table 2. Ethnic structure in Montenegro according to the 1991 and 2003 censuses

Nationality	1991 census (in thousands)	2003 census (in thousands)
Montenegrins	380	268
Serbs	57	198
Bosniaks	-	48
Albanians	40	31
Muslims	90	25
Indefinite	2	27
Others	46	23
Total	615	620

Source: www.monstat.org

Regarding the ethnic structure in the 1991 and 2003 censuses, we clearly see an exponential increase in the number of those who declare themselves as Bosniaks at the expense of those who declare themselves as Muslims. We see that the number of Montenegrins decreases from census to census, and that the number of Serbs increased more than threefold from 1991 to 2003.

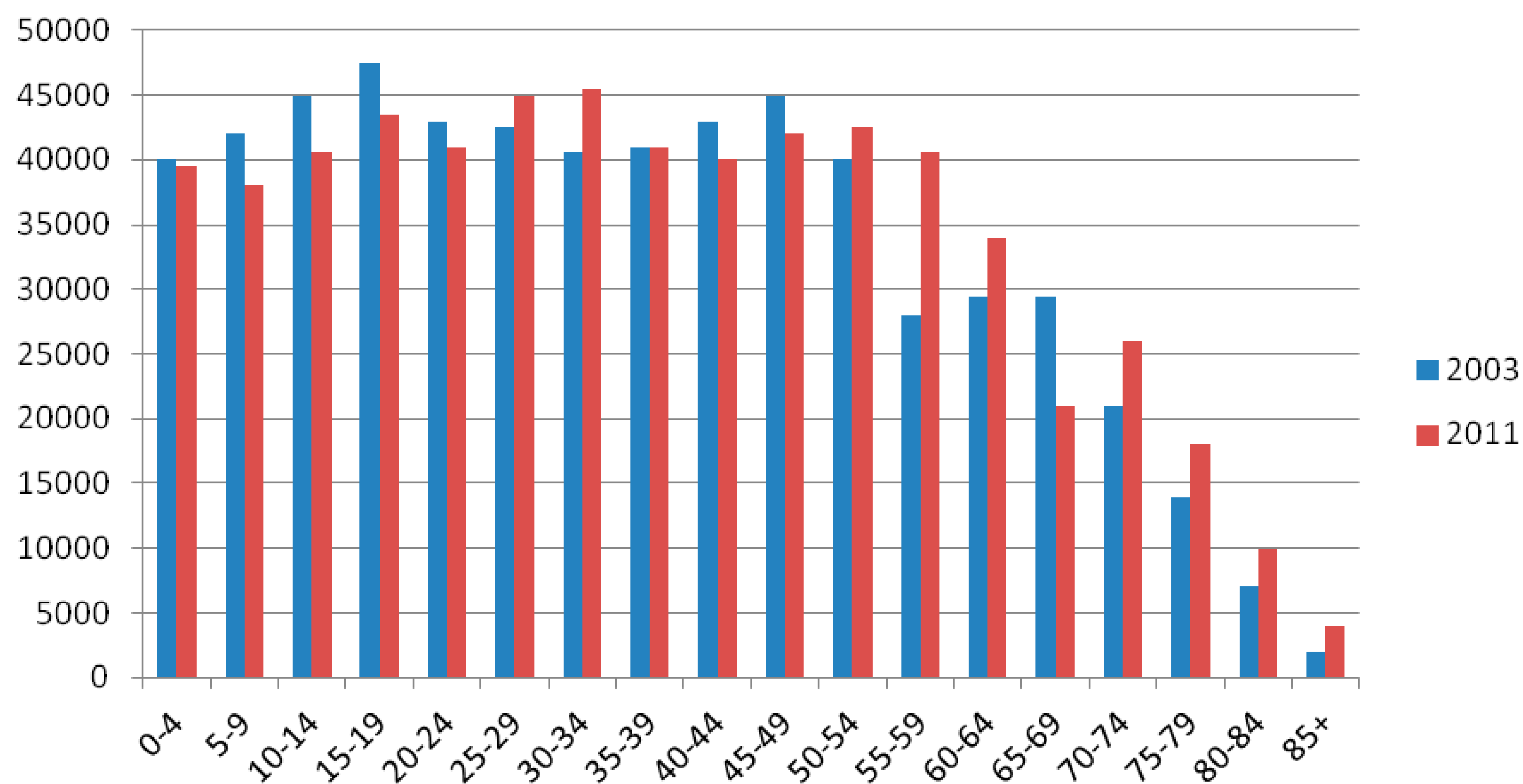


Figure 17. Age structure of Montenegro in the 2003 and 2011 censuses

Source: www.monstat.org

On Figure 17, we clearly see that in the 2003 census there was more population aged 0-24 than in the 2011 census, but that in the 2011 census there was more of the population aged 24-39. There were more people in the 40-49 age group in 2003, and in all subsequent age categories up to 85+ more people were on the census in 2011, except for the 65-69 age group.

CONCLUSION

Geographically, Montenegro is a small country on the Balkan Peninsula. It is rich in beautiful high mountains in the northern region, warm sea and Mediterranean climate in the coastal region, as well as fast and significant rivers in the central region (Trifunovski, 1951). It is characterized by beautiful, untouched nature and a high degree of biodiversity.

Nevertheless, although the natural geographical features remained, more or less, the same, serious regional - geographical changes took place in Montenegro after the dissolution of the SFRY, as well as after the declaration of independence. The most important changes occurred in demography, economy and politics. Serious demographic changes affected all regions, especially when we analyze nationality. There are big regional differences. The northwest, center and southwest of the northern region are mostly inhabited by those who declare themselves as Serbs or Montenegrin Serbs. The north-east and south-east of the northern region is populated predominantly by Muslims. In the central region, there are the most Montenegrin nationalists, that is, people who deny any connection with Serbs (Cetinje and its surroundings). The coastal region is still inhabited by a large number of those who identify themselves as Serbs, especially around Herceg Novi. The surroundings of Bar and Ulcinj are predominantly inhabited by Albanians.

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CONFLICTS OF INTEREST The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. © 2022 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

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