



University of
Salford
MANCHESTER

Subjectification of UK and Russian Smart Cities

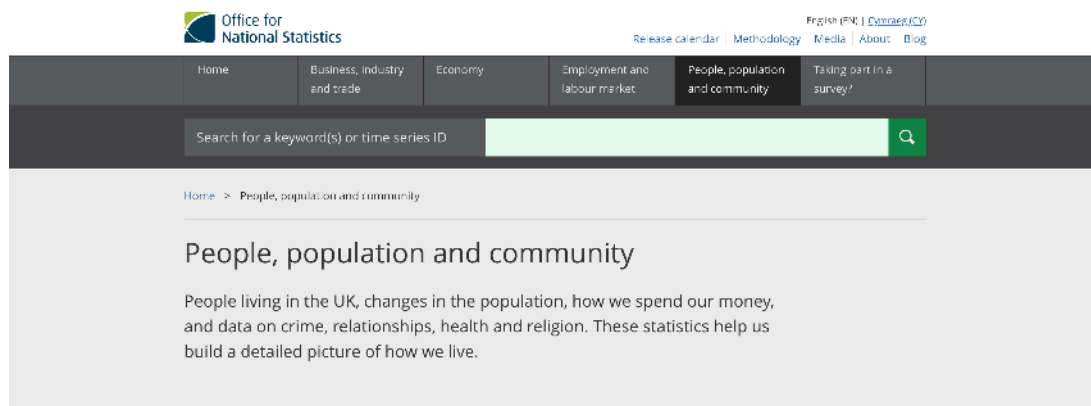
18th – 21st June, 2019

Igonin Aleksandr,
Lomonosov Moscow State University

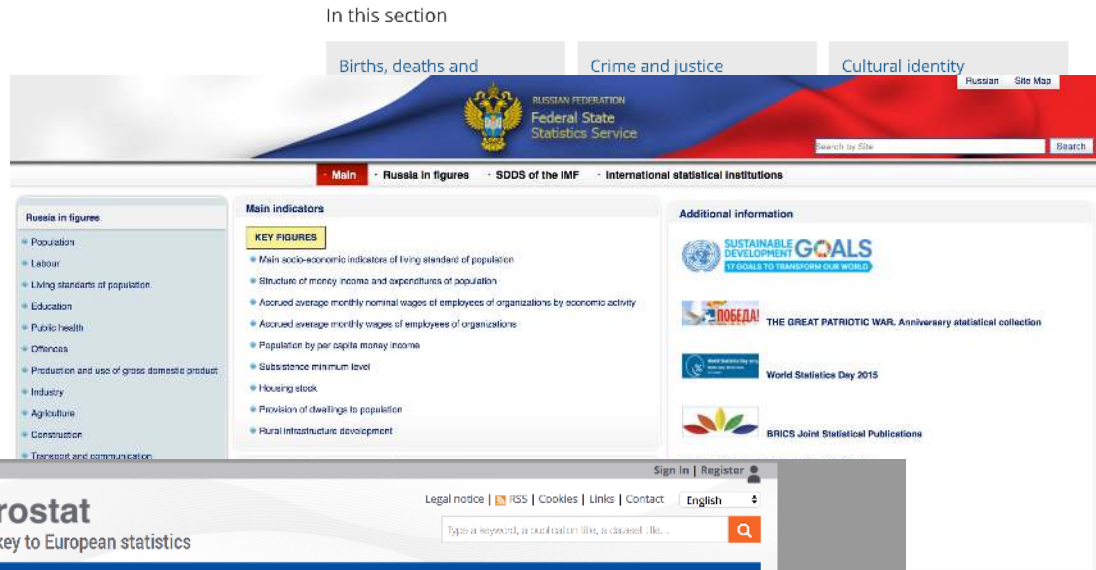


GIS monitoring of the demographic development of Europe and Russia

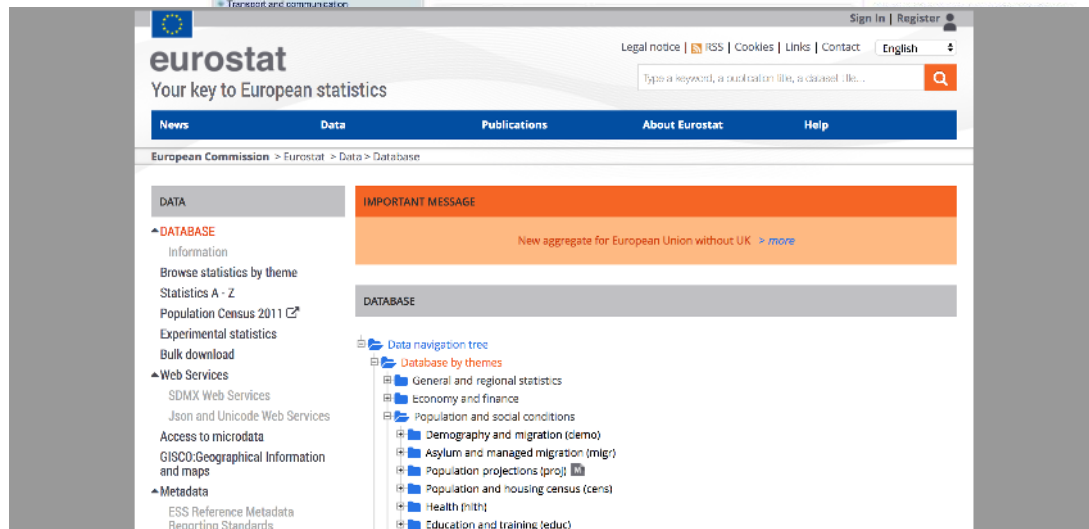
Formation of a common database is one of the key research objectives. Comparison of data from various sources allows you to perform work with a high level of accuracy.



The screenshot shows the homepage of the Office for National Statistics (ONS). The header includes the ONS logo and navigation links: Home, Business, industry and trade, Economy, Employment and labour market, People, population and community, and Taking part in a survey. A search bar is prominently displayed. The main content area is titled 'People, population and community' and provides a brief overview of the data available, including population changes, spending, crime, and health.

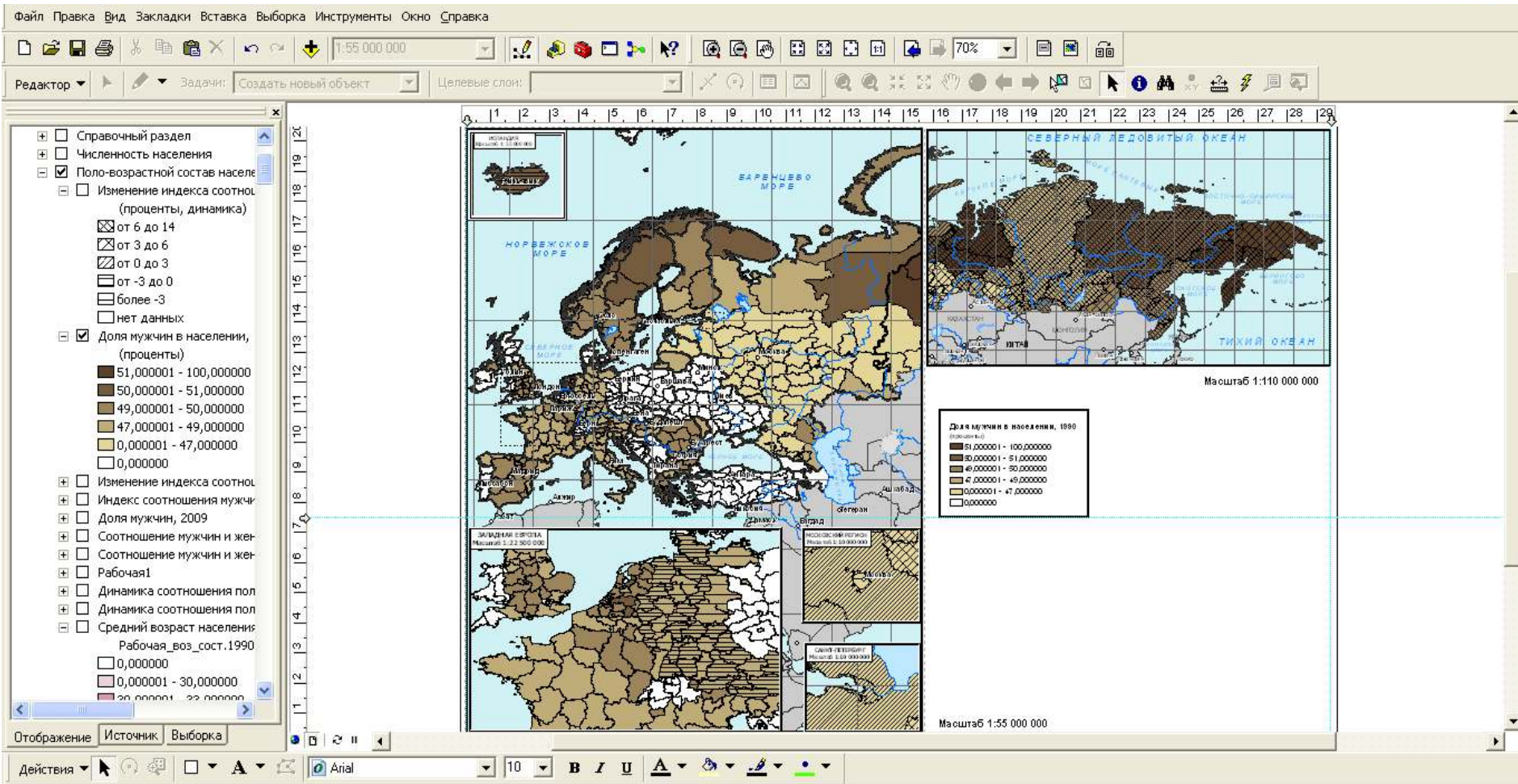


The screenshot displays the website of the Russian State Statistics Service. The header features the Russian flag and the service's name in Russian and English. A navigation menu includes links to Main, Russia in figures, SDDS of the IMF, and International statistical institutions. The main content area is divided into sections: 'Russia in figures' (listing various indicators like population, labour, and education), 'Main indicators' (highlighting key figures such as living standards and wages), and 'Additional information' (featuring Sustainable Development Goals and the Great Patriotic War anniversary collection).



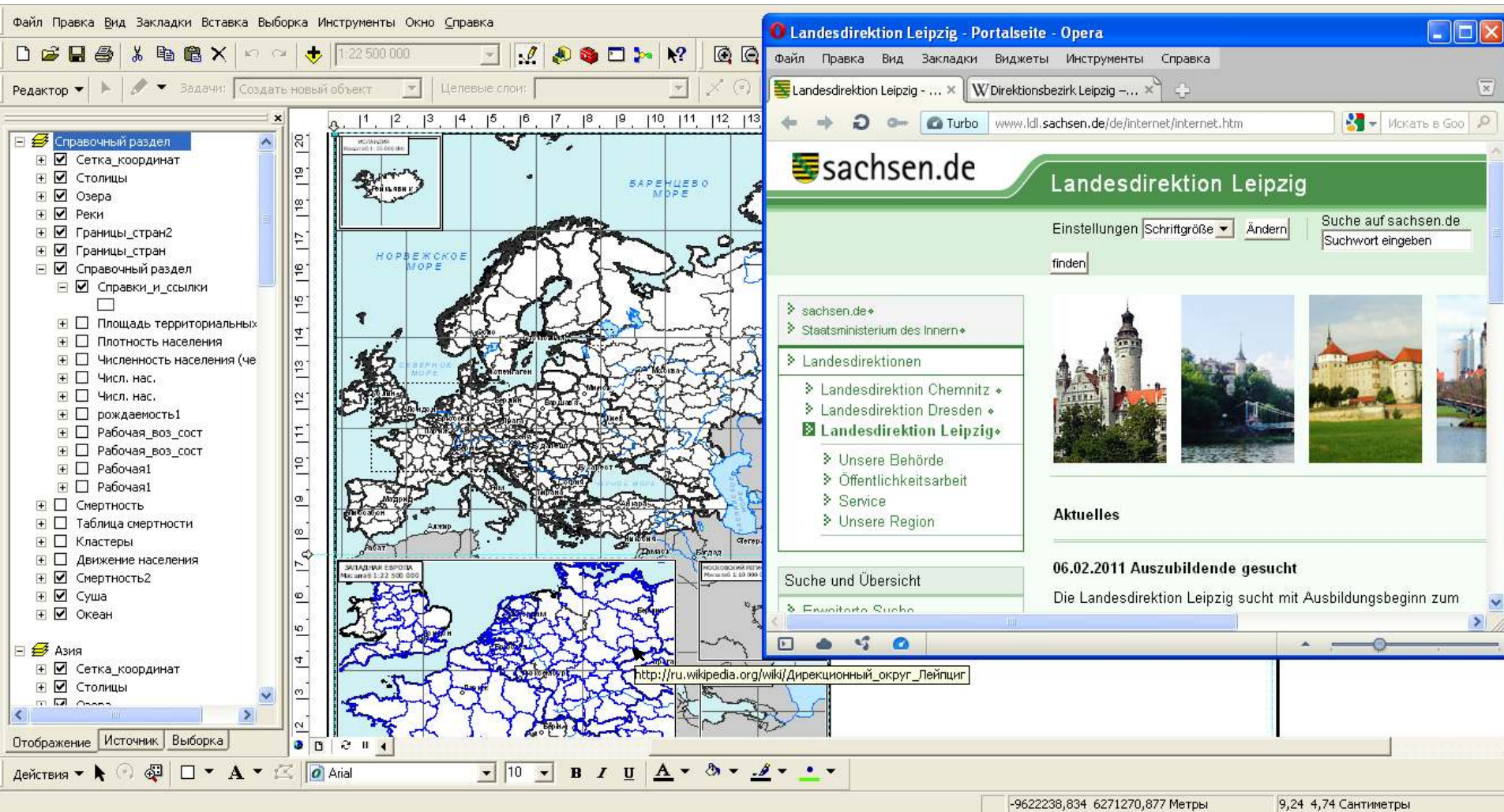
The screenshot shows the Eurostat website, which serves as the key to European statistics. The header includes the Eurostat logo and navigation links: News, Data, Publications, About Eurostat, and Help. A search bar is also present. The main content area is divided into sections: 'DATA' (listing various data sources and services), 'IMPORTANT MESSAGE' (highlighting a new aggregate for the European Union without UK), and 'DATABASE' (providing a detailed data navigation tree with categories like General and regional statistics, Economy and finance, and Population and social conditions).

In order to successfully generalize space and standardize, a cartographic visualization system has been developed.

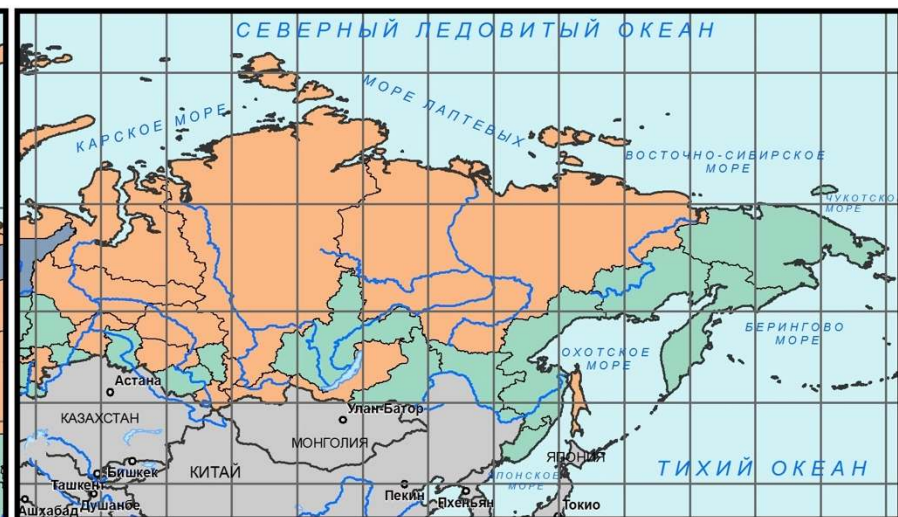
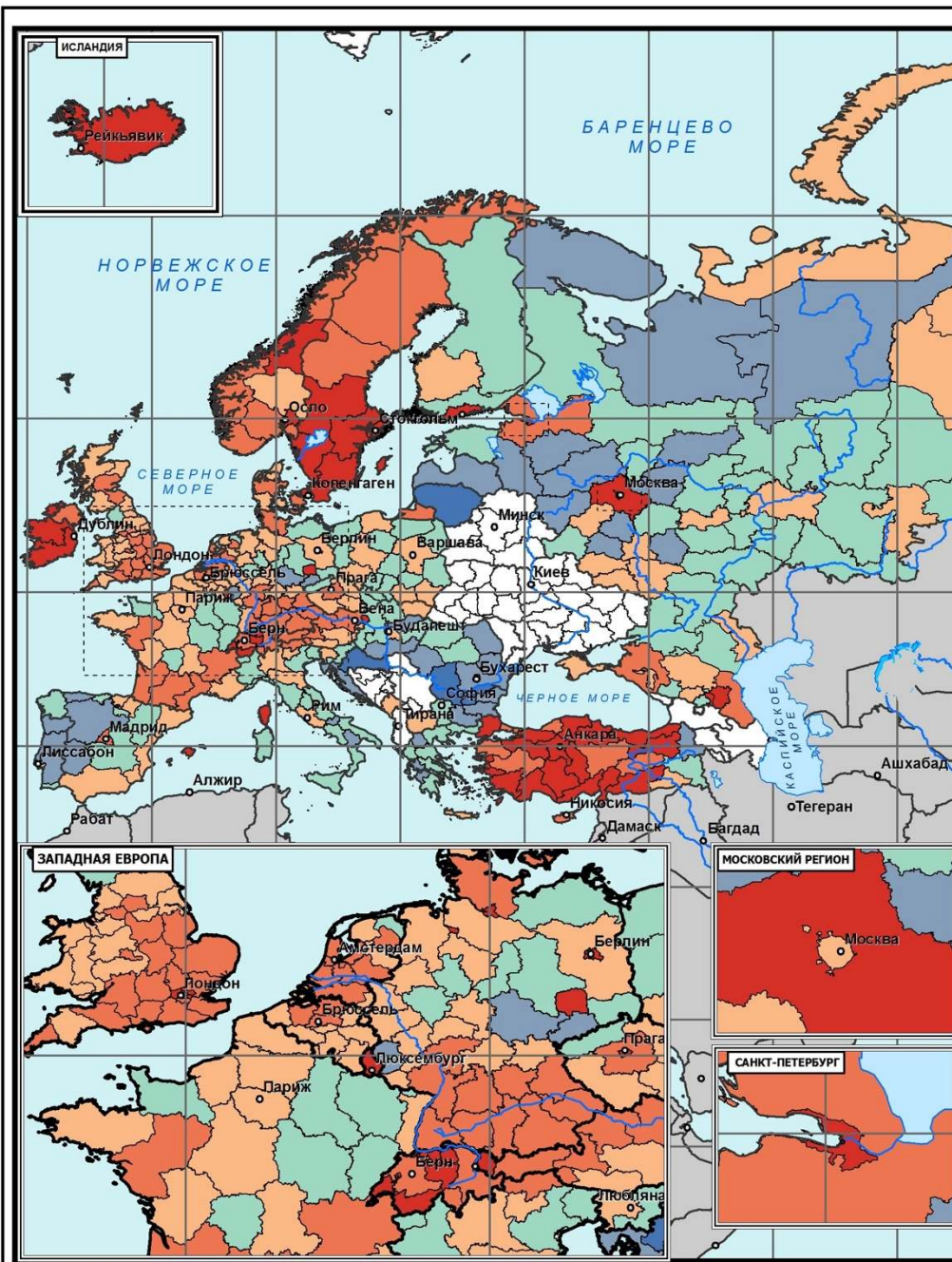


Interface and reference section

GIS monitoring of the demographic development of Europe and the Asian part of Russia



CHANGE OF POPULATION, 2016



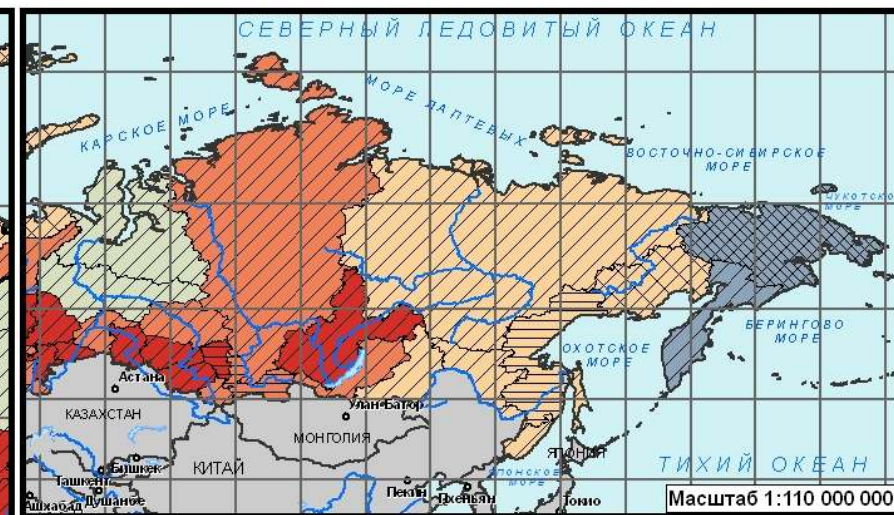
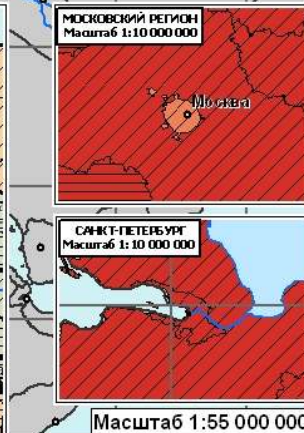
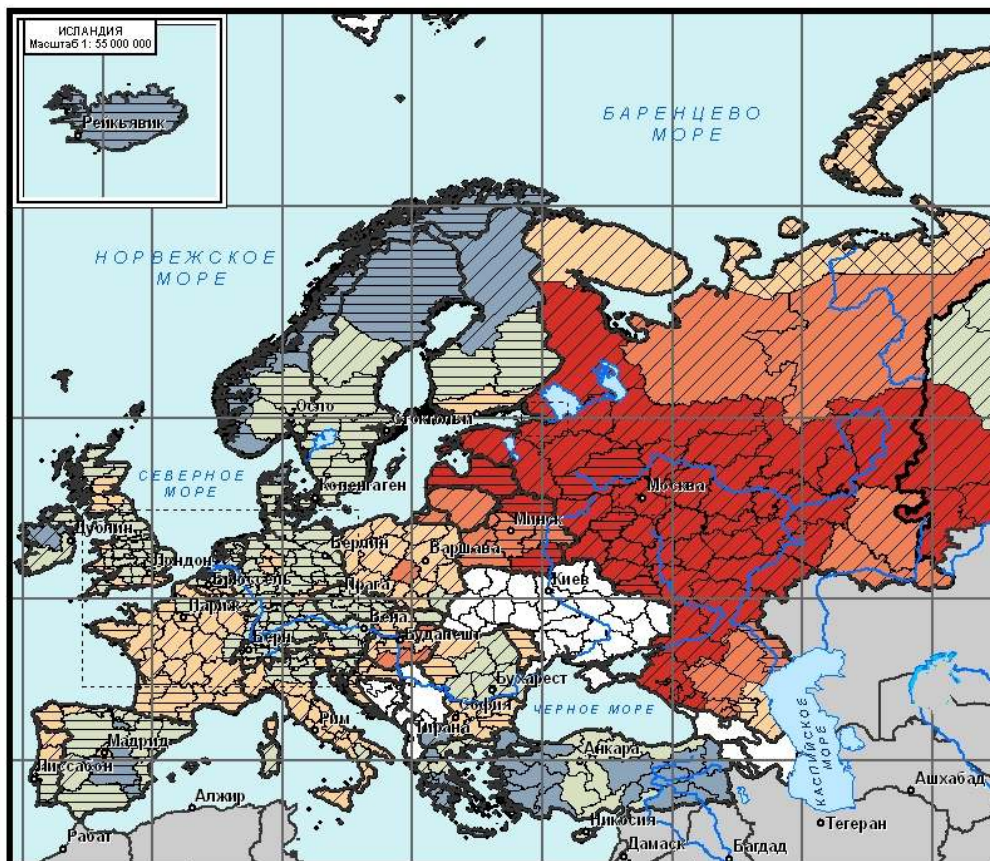
2016, %

-18,4 - -10
-10 - -5
-5 - 0

0 - 5
5 - 10
10 - 35
no data



RELATION OF MEN AND WOMEN, 2009



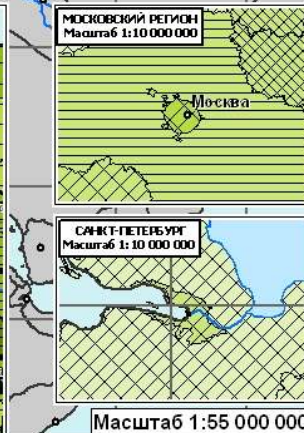
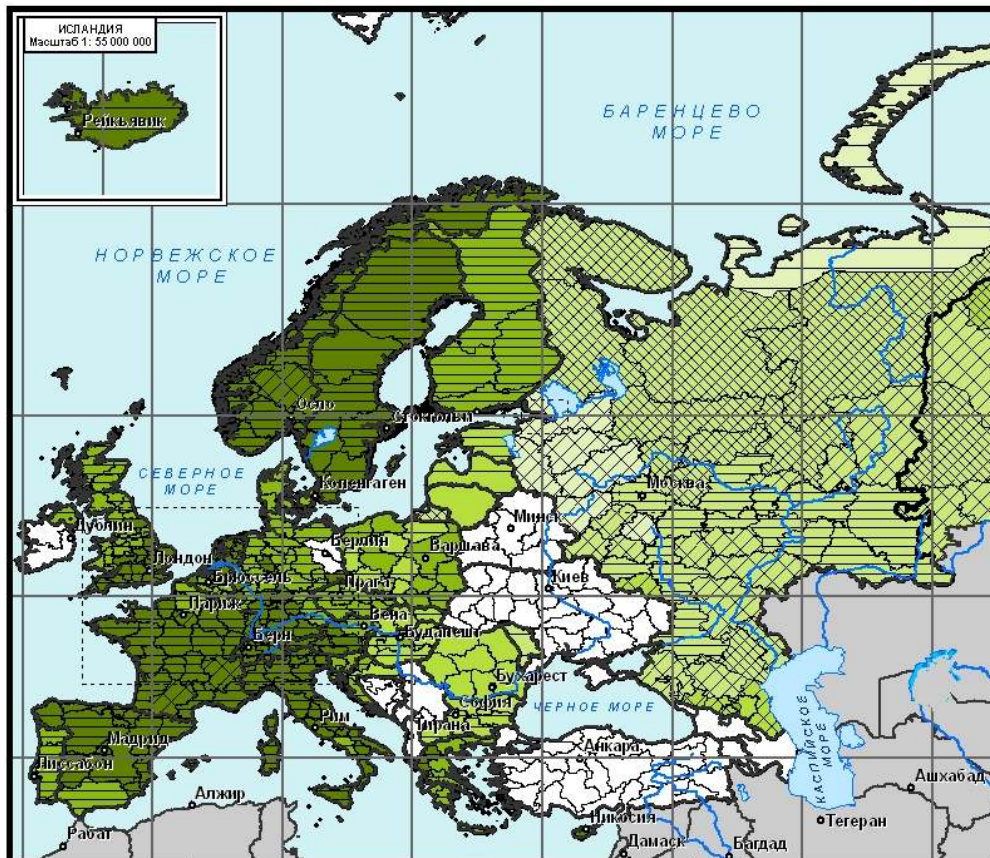
Average number of women per 1000 men

- 1150 - 1250
- 1100 - 1150
- 1050 - 1100
- 1000 - 1050
- less than 1000
- no data

Index dynamics

- 1 - 6
- 0,5 - 1
- 0 - 0,5
- 0,5 - 0
- more than -0,5
- no data

LIFE EXPECTANCY OF POPULATION, 2009



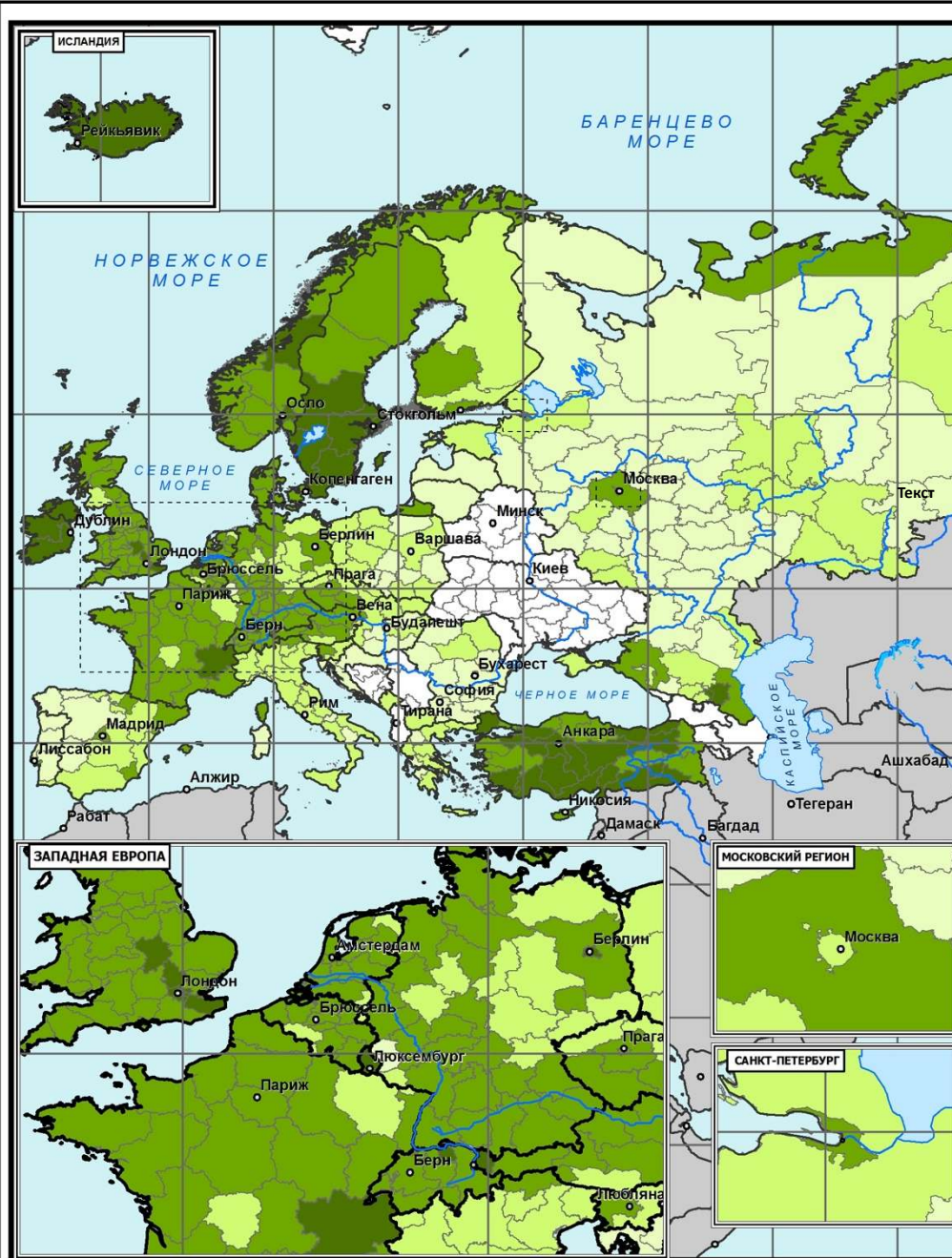
life expectancy indicator

- 3 - 5,4
- 2 - 3
- 1 - 2
- 0 - 1
- нет данных

life expectancy

- 80 - 83,3
- 75 - 80
- 70 - 75
- 65 - 70
- менее 65
- нет данных

DEMOGRAPHIC INDEX, 2016 (1)

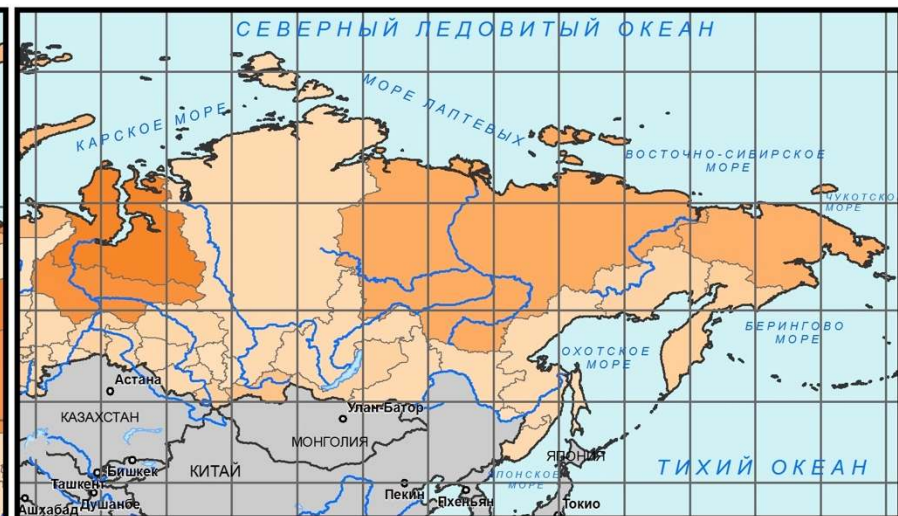
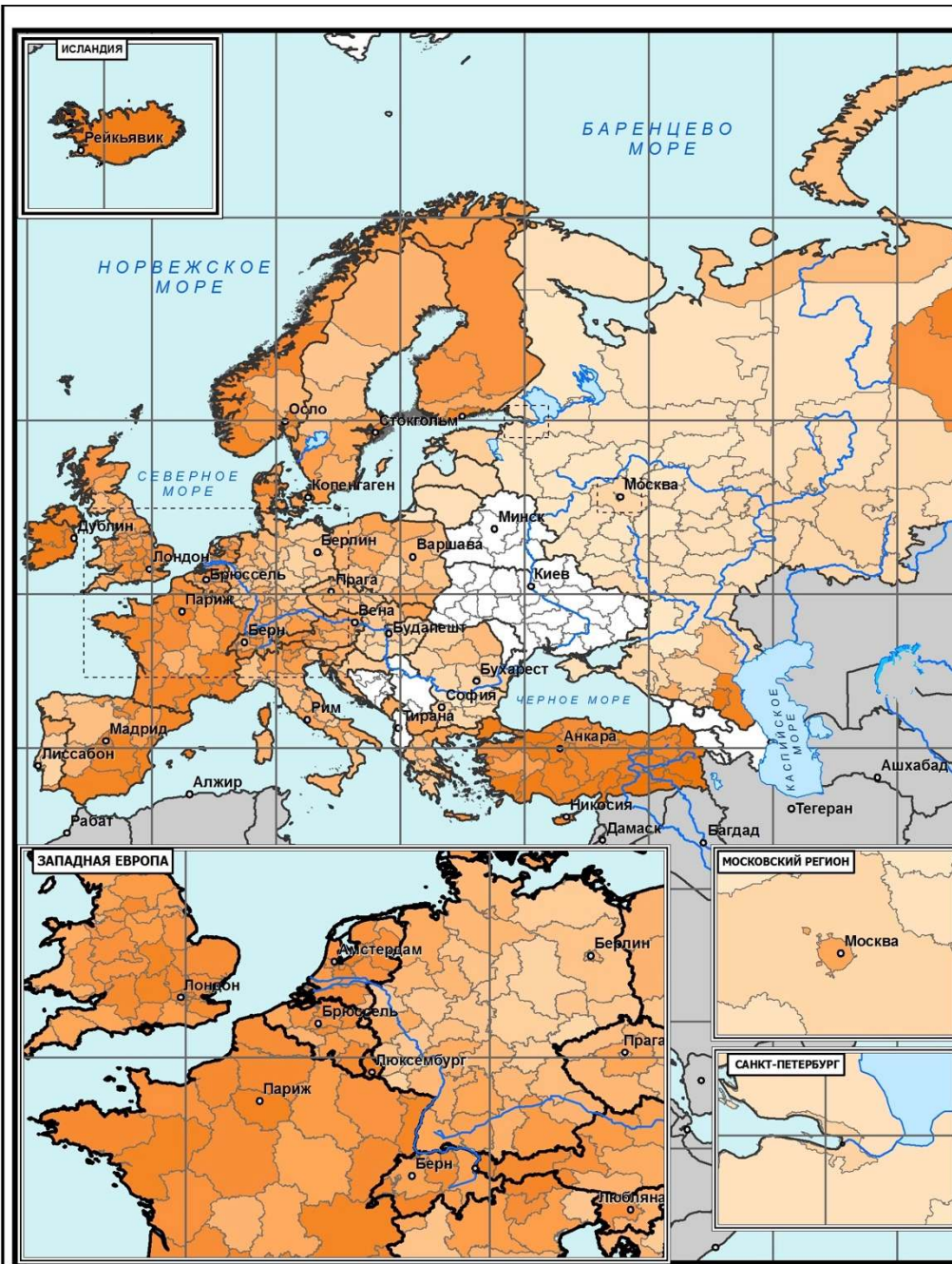


2016, option 1



As a result of the classification, in each of the sets, a strong scatter of the index values was obtained, which confirms the fact of significant differentiation of the parameters of demographic development by territory. According to the results of the analysis of the dynamic series of indices of demographic situations, the genesis of the transformation of the geodemographic composition of the territory is determined.

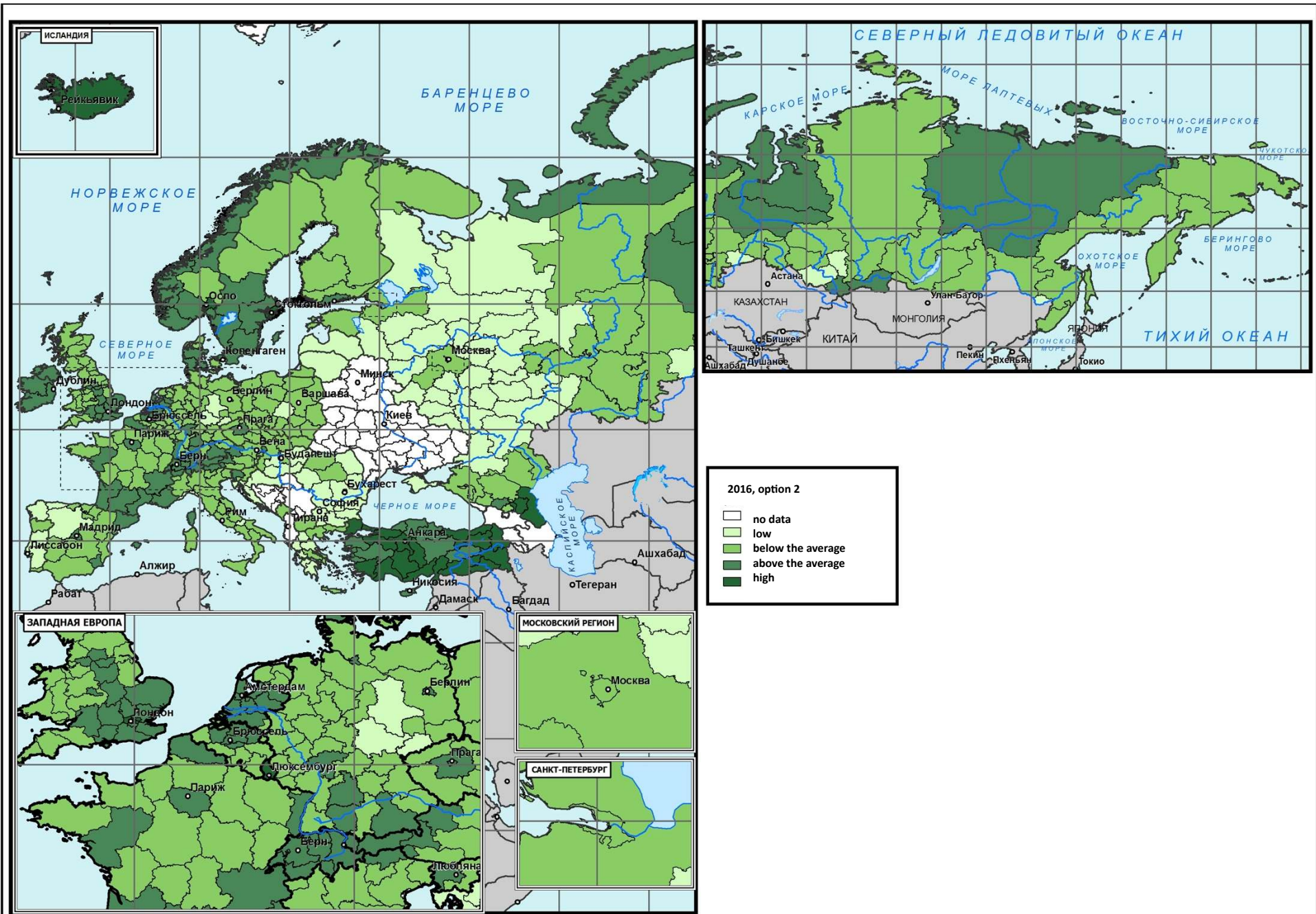
DEMOGRAPHIC INDEX, 2005 (2)



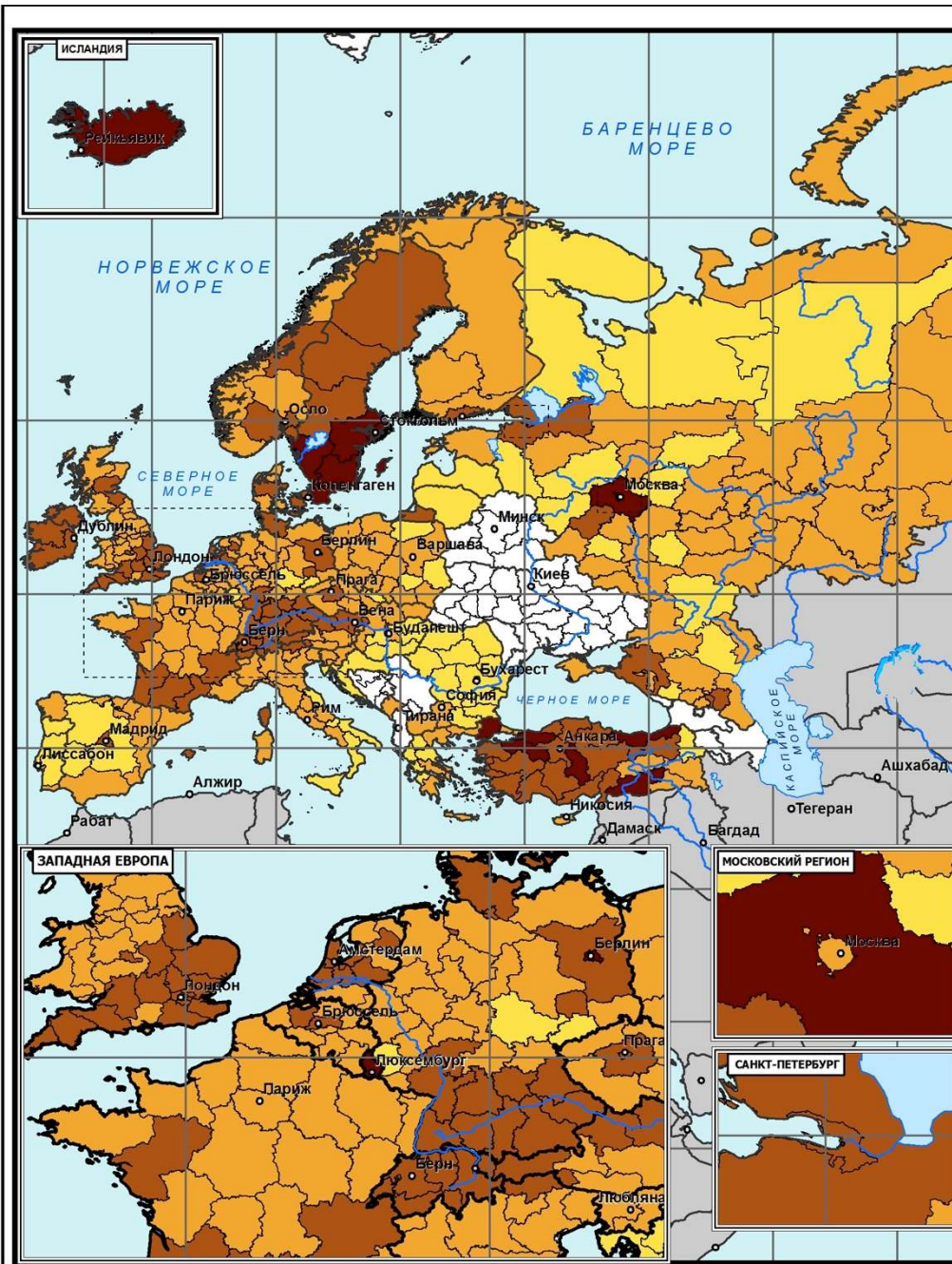
2005, option 2

low high

DEMOGRAFIC INDEX, 2016 (2)



DEMOGRAPHIC INDEX, 2016 (3)

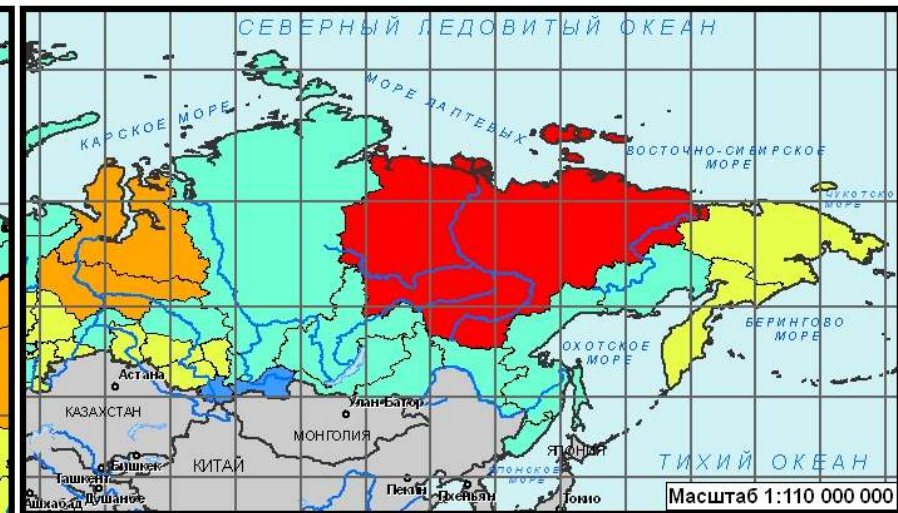
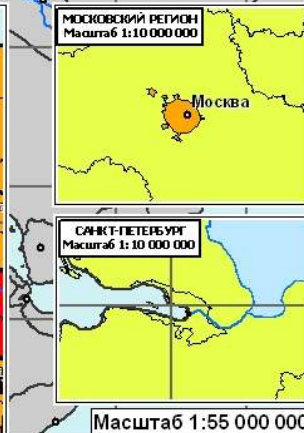
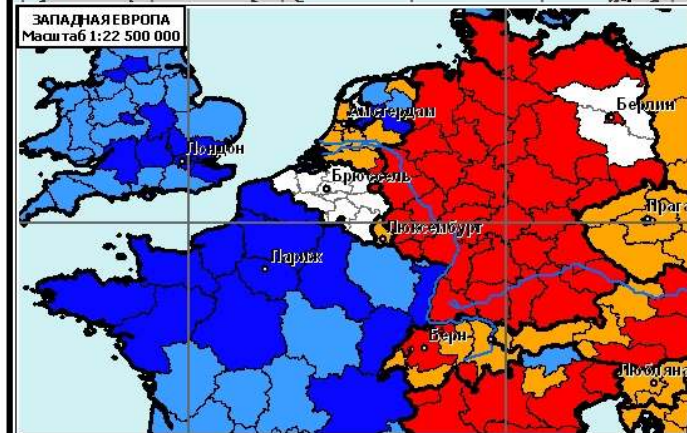
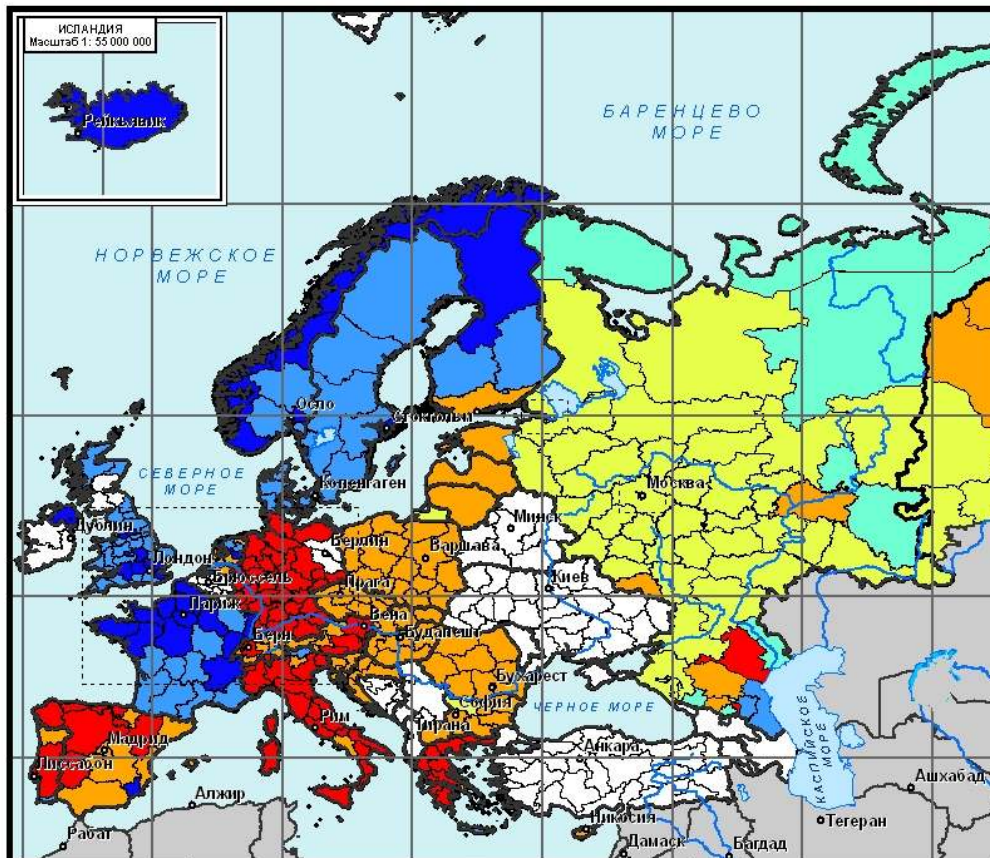


2016, option 3

- no data
- low
- below the average
- above the average
- high

The method of ranking normalized indicators and indices for different years made it possible to present a retrospective of the demographic processes of the considered territorial units. The result of this work was the complex classifications of the territory of Europe and the Asian part of Russia according to the nature of the dynamics of the demographic situation from 2005 to 2016.

Cluster model "Basic indicators of demographic development"

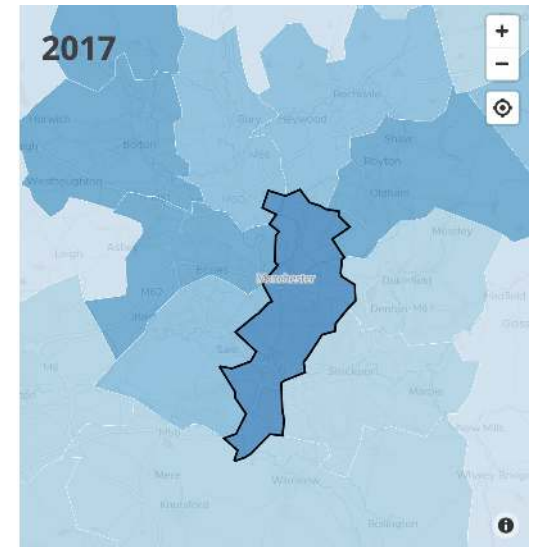


Method Chebychev

- 1
- 2
- 3
- 4
- 5
- 6

- 1 - discrete decline and stagnant aging
- 2 - discrete growth and intensive aging
- 3 - intensive depopulation
- 4 - moderate depopulation
- 5 - discrete demographic growth
- 6 - permanent demographic growth

The created GIS has shown the effectiveness of its use, in particular for monitoring the demographic development of Europe and the Asian part of Russia, making it possible to analyze the indicators of the demographic development of countries and regions and to obtain a set of geographical conclusions and results.



The method of work in GIS monitoring is applicable for research of geodemographic processes in the cities of Great Britain and Russia. It is geodemographic features of the population that largely determine the development strategy of a smart city.

