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## TRANS-BORDER TERRITORIES MAPPING: REALITIES AND PERSPECTIVES

The article considers the current state and perspectives of the trans-border territories mapping. Euroregions functioning features are highlighted. The existing approaches to the trans-border territories mapping have been analyzed. Forms of trans-border cooperation are considered. The need to use the system methodology in the trans-border territories study as well as the appropriateness of the system approach in the trans-border territories mapping is emphasized. The paper devotes special attention to the features of the trans-border territories system mapping and its importance for trans-border cooperation development.

**Keywords:** trans-border territories mapping, Euroregions, trans-border cooperation

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### КАРТОГРАФУВАННЯ ПРИКОРДОННИХ ТЕРИТОРІЙ: РЕАЛІЇ І ПЕРСПЕКТИВИ

У статті розглядаються сучасний стан та перспективи картографування прикордонних територій. Висвітлюються особливості функціонування євро регіонів. Проаналізовано наявні підходи до картографування прикордонних територій. Розглядаються форми організації транскордонної співпраці. Постулюється необхідність застосування системної методології під час дослідження прикордонних територій, а також доцільність застосування системного підходу при картографуванні прикордонних територій. Підкреслюються особливості системного картографування прикордонних територій та його значення для розвитку транскордонної співпраці.

**Ключові слова:** картографування прикордонних територій, євро регіони, транскордонне співробітництво.

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### КАРТОГРАФИРОВАНИЕ ПРИГРАНИЧНЫХ ТЕРРИТОРИЙ: РЕАЛИИ И ПЕРСПЕКТИВЫ

В статье рассматриваются современное состояние и перспективы картографирования приграничных территорий. Освещаются особенности функционирования евро регионов. Проанализированы существующие подходы к картографированию приграничных территорий. Рассматриваются формы организации трансграничного сотрудничества. Постулируется необходимость использования системной методологии в ходе исследования приграничных территорий, а также уместность использования системного подхода при картографировании приграничных территорий. Подчеркиваются особенности системного картографирования приграничных территорий и его значение для развития трансграничного сотрудничества.

**Ключевые слова:** картографирование приграничных территорий, евро регионы, трансграничное сотрудничество.

**Introduction.** The practice of uniting border areas of different countries in a single region (Euroregion – for European states, or «maquiladoras» – for U.S. and Mexico) has existed for more than 55 years. The first was the European region, occurred on the Dutch-German border in 1958 and was called «EUREGIO». Further Euroregions began to originate over all Europe [7].

Accordingly, maps as the most demonstrative and popular way of visualization appeared at the same time. At first they existed as single maps and charts, then as the general geographic maps and series of thematic maps. In our opinion, cartographic works of the same subject, in this case of the trans-border regions, should be more or less unified, completely objective, and certainly readable. Maps of the trans-border territories have to display information in the most unbiased, comprehensive and systematic way that will enable to appreciate all the «pros» and «cons» of trans-border cooperation.

**Initial conditions.** At present, the scientific community has significant achievements in theoretical and methodological foundations and methodological analysis of trans-border cooperation and trans-border processes. Trans-border cooperation features and its importance for the sustainable development of the regions was highlighted in the works of such scientists as P. Byelyen'kyi, L. Bozhko, L. Vardoms'kyi, O. Vendina, A. Golikov, A. Kiryukhin, V. Kolosov, Y. Kosov, N. Mikula, V. Reutov, I. Studennikov, S. Ustych, V. Fokina, P. Chornomaz [3-7] and others.

The question of trans-border regions mapping has been insufficiently explored, as it is discovered in the literature. The works of O. Tryukhan [5] on cartographic and geodetic support of the delimitation and demarcation of state borders of Ukraine are well-known. However, the question of the system thematic trans-border territories mapping is merely concerned in his studies.

**The purpose** of this paper is the trans-border territories mapping approaches analysis and consideration of the perspectives for this type of mapping.

**The main material.** In current geopolitical and economic conditions the most effective way to solve common development problems and to deepen beneficial contacts of the people from neighboring countries is to develop the trans-border cooperation.

The term «transfrontier cooperation» was applied in The European Outline Convention on Transfrontier Cooperation between Territorial Communities or Authorities, also called the Madrid Convention, according to which «transfrontier cooperation» shall mean any concerted action designed to reinforce and foster neighborly relations between territorial communities or authorities within the jurisdiction of two or more Contracting Parties and the conclusion of any agreement and arrangement necessary for this purpose. Transfrontier cooperation shall take place in the framework of territorial communities or authorities as defined in a domestic law [1].

Considering the terms difference, it should be noted that because of the negative connotations of the word «frontier» it would be better to use trans-border cooperation" instead of the «transfrontier cooperation» without breaking the original definition framework. As V. Reutov notes, trans-border cooperation at the regional level and the trans-border regions formation have four stages of development: the study of the existing relations between the partners, the strategy development, the development programs maintenance and monitoring and evaluation [4].

The trans-border cooperation in Europe has developed mostly in the form of Euroregions. Euroregion is a form of territory societies or local authorities' trans-border cooperation that appears in bordering regions of two or more states which have a common border. Here cooperation targets the mutual efforts coordination as well as the implementation of agreed actions in different spheres of life according to the national legislation and norms of international law for the solution of common problems. It is necessary to consider the rights of the inhabitants on both sides of the border [2]. The term «Euroregion» means both a geographical region located on the border of two or more neighboring countries and the organization created to coordinate the cooperation of the Euroregional agreement parties and was approved by the EU, which supports its activities financially. According to the official website of The Association of European Border Regions (AEBR) information, in 2014 in Europe and beyond it existed 185 euroregions [8].

As an example of «successful Euroregion» within the EU we can use the British-French-Belgian region «Kent – Nord-Pas de Calais». It appeared in 1987 and its main activities focus on the benefits of the Channel Tunnel construction in 1994, primarily on reducing unemployment in the participating areas. Another good example is the Swedish-Danish Euroregion «Oresund (Sund)», created in 1996 for the economic relations development and the sphere of scientific research and experiments promotion. The creation of the bridge over the Sund Channel in 2000 increased the employment in the region which includes the cities of Malmo and Copenhagen [9].

The changing role of Euroregions after the European Union reformations should also be highlighted. Euroregions can be created both within the EU and abroad. In fact, the participation in Euroregions of the states-EU-non-members leads to the EU integration concept expansion by creating new areas of cooperation.

The achievements of Euroregions in Western Europe, as well as their EU entry speed-up role, determined Euroregions dissemination in Central and Eastern Europe (CEE). Quite often creation of Euroregions comprises territories with different levels of socio-economic development, administrative and legislation system, which in turn slows down, complicates the project realization and causes the specificity of the whole structure.

Ukraine is also actively involved in European initiatives on trans-border cooperation. Today the organization of trans-border cooperation institutes has been established in our country. There are eight Euroregions prospectively, and Zakarpatska oblast is already participating in The European Grouping of Territorial Cooperation Unr-Tisa-Tur-Slana [8]. At the stage of the programs development and maintenance (Ukraine is currently at this stage), appropriate scientific methodologies elaboration is of great importance. The conditions for the trans-border systems functioning improvement requires a detailed study of the territories of the regions which is highly recommended to embody with cartographic research method.

Phrasing and consideration of the problem of the trans-border cooperation map provision requires appropriate terminological justification. The «map for the trans-border cooperation development» we define as a spatiotemporal, visual, figurative and symbolic model of reality created to meet cognitive needs of people in the development of trans-border regions cooperation in the economic, social, cultural, environmental, scientific and other areas.

Maps for trans-border cooperation are to be classified by the *territorial scope* (macro-, meso- and micro-level) and *the object of mapping* (maps of Euroregions, trans-border agglomerations, trans-border clusters, the European Grouping of Territorial Cooperation etc.).

We would like to analyze three existing approaches to the trans-border territories mapping: American, European and post-Soviet.

The *American approach* is associated with the simplification of geographical basis of maps, substantial generalization of thematic content, bright colors usage, extensive anamorphoses and additional elements (graphs, charts, etc) usage. The visibility and accessibility for common understanding are the main advantages of these maps but their content information is limited (there is often even no scale signature on the map). Figure 1 is an example of such a map.

A different approach to mapping on the territory of CIS countries is used. Maps of trans-border territories created in the *post-Soviet approach* scope are similar to

traditional maps. They have a detailed geographical basis and a legend, are designed in a pastel palette. In terms of classical cartography these maps are more informative but their perception is complicated for an ordinary user (Figure 2).

The *European approach* to the trans-border territories mapping combines the features of American and post-Soviet approaches (Figure 3).

In our opinion, the European approach is optimal in view of the fact that ordinary users may not have the necessary geographical knowledge to understand complicated maps overloaded with information.

The singularity of the trans-border territories mapping originates from the large variety of the trans-border cooperation types and forms and from the multidimensionality of their manifestations. Thus, the structures involved in general trans-border cooperation

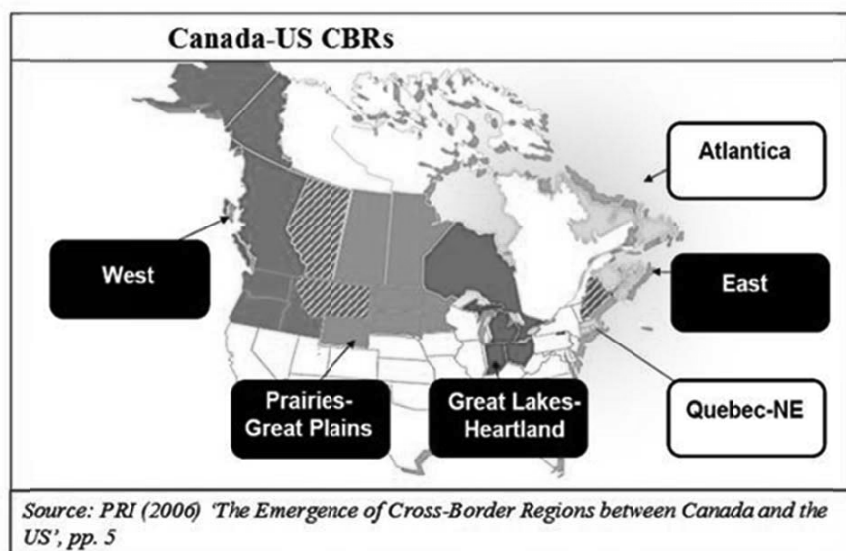


Fig.1. Canada and the USA trans-border territories

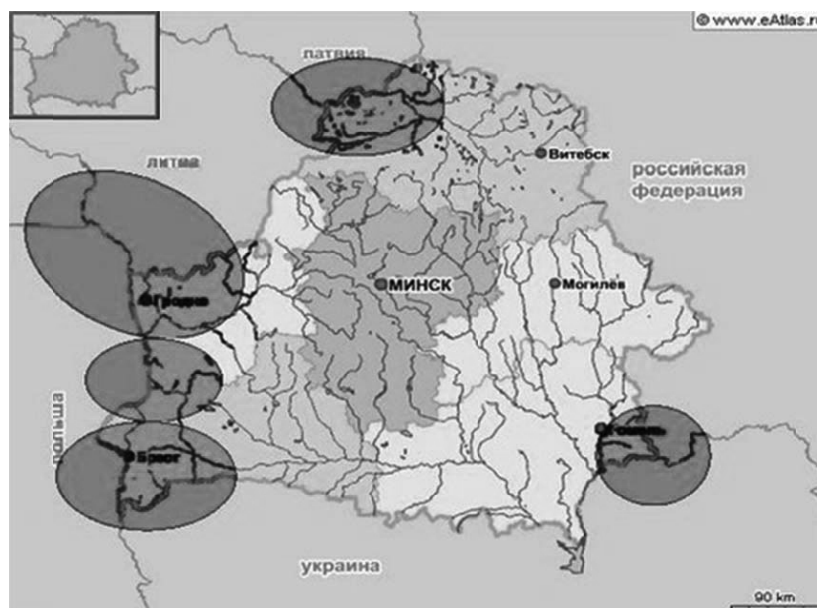


Fig.2. Euroregions with Belarus

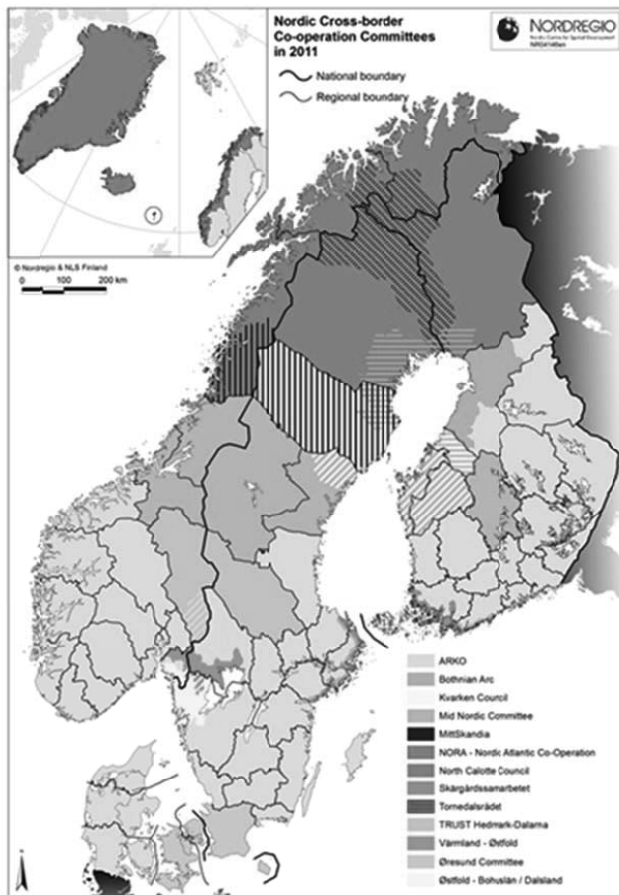


Fig.3. Trans-border cooperation in Northern Europe in 2011

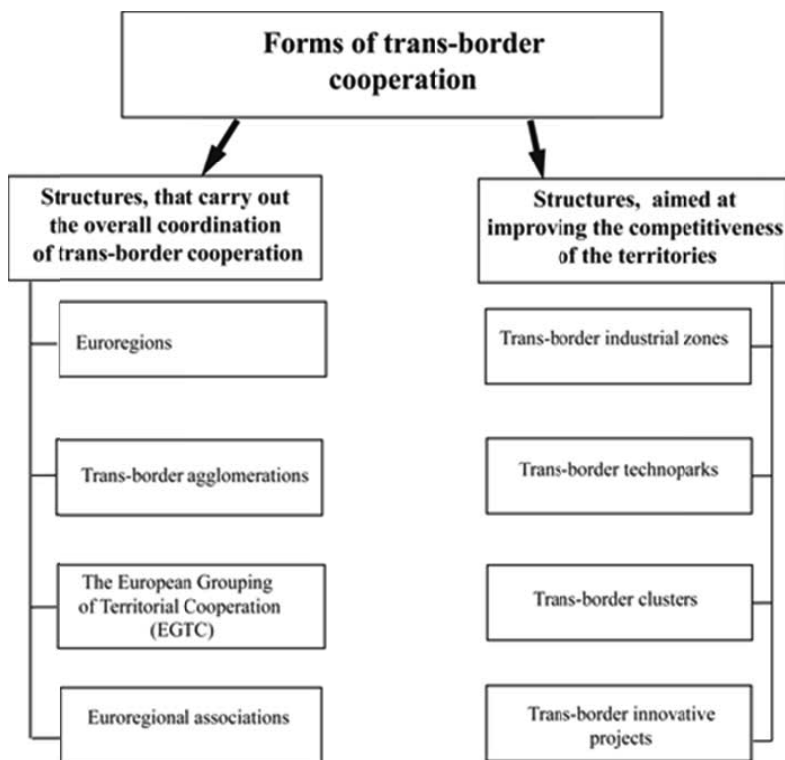


Fig.4. Forms of trans-border cooperation

in various spheres include Euroregions, trans-border agglomerations, The European Grouping of Territorial Cooperation (EGTC), Euroregional associations and some other structures [3].

The structures whose aim is to give the territories competitive ability and raise the standard of living are the trans-border industrial zones and parks, trans-border clusters and trans-border innovative projects (Figure 4).

We share the view of S. Ustych, who affirms that only system methodology is now able to reflect adequately the natural, organic unity of the very different factors affecting trans-border structures [6]. As for the trans-border territories mapping, it also has to be systematic.

One of the trans-border territories system mapping features is the main directions of mapping appointment by the types and forms of trans-border cooperation. As mentioned, there exist many types and forms of trans-border cooperation that should be reflected in maps. The most attention is devoted to the mapping of Euroregions, while relatively few maps represent trans-border clusters, trans-border agglomerations and other forms of trans-border cooperation.

Accepting the system methodology's stand, it is necessary to represent the mapping object as actually existing trans-border system. It is necessary to understand clearly that trans-border structures, being formed as a result of certain international agreements, not only exist on the paper, but also function in real life. In our opinion, gained from the international experience analysis, the complicated political and economic situation in

the country could be stabilized by creation of the trans-border structures. In Ukraine Euroregions should be developed not only in the western part of the country but also in the East and the North where the historically strong and sustainable cultural, social and economic connections exist. First of all, it refers to the «Slobozhanshchyna» Euroregion which includes 12 administrative districts of Kharkiv and Belgorod oblasts and can steady the political, economic and social situation on the border of both countries.

**Conclusions.** We can conclude that the trans-border cooperation can be a tool for the European integration aspirations of Ukraine as this practice helps to reduce the economic weakness of peripheral regions. The experience of some Euroregions shows that they are the way of trans-border areas problems solving, transformation of the depressed areas into developing dynamically. The proper mapping coverage is one of the keys to the Euroregions and other trans-border structures' successful development and plays an important role in informing the public of the activities of these organizations.

Due to the variety of trans-border cooperation forms and diversity of their functions only system methodology which has strong applied research equipment can transform the trans-border cooperation study from a descriptive to practically needed modus. This implies that

the trans-border territories mapping has to acquire the systemic features that currently are not inherent to it.

**Reviewer: Candidate of Geologic-Mineralogical Sciences A.M. Kiryukhin**

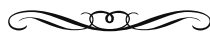
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## NATURAL, HISTORICAL AND CULTURAL HERITAGE AS A MAPPING OBJECT

This paper studies the theoretical and methodological foundations and approaches to regional mapping of natural, historical and cultural heritage. The main objects and parameters of heritage mapping are examined. The principles to develop regional heritage cartographic products have been revealed.

**Keywords:** natural, historical and cultural heritage, thematic mapping, mapping principles, the system of regional maps.

К.В. Шпурік

### ПРИРОДНА ТА ІСТОРИКО-КУЛЬТУРНА СПАДЩИНА ЯК ОБ'ЄКТ КАРТОГРАФУВАННЯ

Дана стаття присвячена вивченню теоретичних і методологічних засад і підходів до регіонального картографування природної та історико-культурної спадщини. Розглянуто основні об'єкти і параметри картографування спадщини. Розкрито принципи розвитку регіональних картографічних творів спадщини.

**Ключові слова:** природна та історико-культурна спадщина, тематичне картографування, картографічні принципи, система регіональних карт.