Yuldoshev Jakhongir
Lecturer at the Department of General Professional Disciplines, Faculty of Tourism, Alfraganus University
Tashkent, Uzbekistan.
Orcid.org/0009-0002-2245-6212

GENERALIZATION OF SPECIAL CONTENT IN MAPS DESIGNED FOR AGRICULTURE

Abstract: *The article describes the factors of generalization of the special content of the card in agricultural maps and the manifestation of generalization in various cartographic representation methods.*

Key words: *Agricultural maps, generalization, generalization factors, manifestation of generalization in cartographic representation methods.*

Entry. Generalization of specific content elements is one of the most important sections of agricultural map construction. Generalization helps to isolate and generalize important aspects of agricultural production on maps, to show leading crops and sectors on a larger scale, and to better understand the patterns of agricultural production placement.

To date, there are not many large-scale agricultural maps. Most small and medium-scale agricultural maps are compiled on the basis of statistical materials, and then large-scale agricultural maps are created on their basis, and then, when moving from these maps to smaller-scale maps, the specific content is generalized.

The main content of agricultural maps, which is agricultural production, is spread over vast territories. Accordingly, in generalization, the selection and generalization of areas, contours, quantitative and qualitative indicators for agricultural maps are of paramount importance [1].

As is known, the general factors of generalization are the scale, purpose and content of these maps. These factors are also preserved when generalizing specific content on agricultural maps.

Generalization of specific content on agricultural maps is carried out in the following directions:

1) generalization of the contours (areas) of agricultural sectors and crops shown on agricultural maps (simplification of contours, merging small contours with large ones, enlarging the dimensions of small contours, etc.);

2) generalization of quantitative characteristics, for example, reducing the scale steps in cartograms when moving from large to small scales, enlarging or decreasing the weight of points on maps constructed using the point method, etc.;

3) generalization of qualitative characteristics (replacing small precise classifications with larger ones, replacing individual characteristics with general characteristics, for example, moving from individual enterprises for the primary processing of agricultural raw materials to industrial centers, etc.);

4) selection of objects, enterprises, etc. by determining the boundaries (contours of branches and crops);

5) replacement of separate (individual) concepts with more general, aggregate concepts; transition from the indicated type of individual indicators to groups, for example, instead of indicating the location of individual crops (wheat, rye, corn, barley, etc.), aggregate indicators of grain crops are given, etc.; transition from indicating individual enterprises to areas or industrial centers, etc.

In order to competently (correctly) generalize a specific content on agricultural maps, it is necessary to know the specifics of agricultural production and its location, the classification of agricultural crops and branches, and the most important groups, the connections and compatibility between them. Without this, it is impossible to accurately determine the dimensions of the areas for agricultural maps of different scales, sectors and crop selection criteria for different regions [1].

The most important factor in generalization on agricultural maps is the selection and generalization of contours. When selecting and generalizing contours on agricultural maps, as well as on other specialized maps - soil, vegetation, climate, etc., the following should be achieved:

a) the correct ratio of areas occupied by a particular crop or sector in different regions;

b) maintaining the relative fragmentation and accuracy of contours, corresponding to the characteristics of agricultural production of the territory and the nature of the location of crops and sectors;

c) preserving the characteristic features of the forms of territories and areas arising from the specific characteristics of agricultural production of the territory being mapped;

d) determining and recording the relationships of individual contours (areas) with each other and with the geographical environment;

Different thresholds should be set for each group, lower for crops with a strictly localized distribution, higher for widely distributed crops.

When setting thresholds, it is necessary to ensure the contours, as well as the readability of the nature and shape of the conditional symbols. Let us turn to the experience of depicting soil and vegetation cover on general geographic maps. The instructions for compiling small and medium-scale general geographic maps indicate the following minimum areas of one or another type of agricultural land: forest 1-10 mm2, swamps and salt marshes 25 mm2, barrens 25 mm2, sand dunes 1-2 cm2, shrubs 1 cm2, reed beds 1 cm2, sparse forests 3-4 cm2, saxaul forests 3-4 cm2, and rocks 3-4 cm2. The following minimum dimensions are given in the works on cartography: 0.8-1.0 mm2 for forests, 3 mm2 for marshes and marshes, 5 mm2 for barrens, 5 mm2 for sand dunes, 15 mm2 for shrublands, 2 mm2 for reed beds, sparse woodlands and saxes, 3 mm2 for rocky areas [2].

However, these limits cannot be mechanically transferred to agricultural maps. In nature, there are no sharp boundaries between individual agricultural areas: agricultural sectors and crops gradually merge into each other. All this requires a significant increase in the minimum area of areas on agricultural maps compared to general geographical maps.

For agricultural maps with scales from 1:500 000 to 1:20 000 000, it is recommended to set the minimum area of areas of agricultural crops and sectors from 0.2 mm2 to 1 cm2. All contours with areas smaller than the established limits are not included in the map. These areas are not always excluded, but if they are located separately and need to be shown on the map, they are combined or enlarged.

Generalization in the cartographic method consists primarily in reducing the scale steps and moving from small administrative units to larger ones - from

village councils to administrative districts, from administrative districts to regions. The smaller the scale, the fewer the scale steps should be, and the larger the administrative unit. At the same time, it is necessary to take into account the method of equipping cartograms. The brighter the colors or the stronger the hatching, the more accurate (detailed) the scale of the steps should be, and vice versa. Finally, it is necessary to take into account the compactness, expressiveness and size of the areas. The larger the areas of individual groups and the more compact and expressive these groups are, the more scale steps can be.

Scales: For cartograms from 1:1 000 000 to 1:20 000 000, a scale of 3 to 10 steps can be recommended.

In the cards made by the method of points, the generalization is shown as follows:

a) increasing the weight of points;

b) reducing the number of colors of points to one;

c) moving from points to areas or contours.

The smaller the scale of the map, the greater the weight of the points should be. The color of the points is also of great importance. Black points are better readable and can be much smaller. Colored points are worse readable and should be much larger than black points. The larger the point, the greater its weight should be at the same scale [3].

On maps with a scale of 1:100,000 to 1:20,000,000, the weight of points varies from 50 to 200,000 hectares.

Generalization in the area method is manifested in:

a) sorting areas by area or by determining criteria;

b) combining a number of densely located areas into one;

c) correcting the image of areas;

d) when combining two or three types of areas (with quantitative descriptions) into one in the legend.

Generalization in the contour method is carried out as follows:

a) increasing the conditional interval, reducing the number of intervals and contours;

b) simplifying the configuration of contours;

c) eliminating secondary details.

The generalization of the method of moving lines by reducing the number of qualitative differences is completely rejected (for example, instead of showing the composition of the cargo, the transportation of cargo in general is shown, and by selecting the most important cargo flows, a larger schematization of the cargo flow line, etc. Of all the methods, generalization is most fully manifested in the qualitative background method. This is explained by the fact that it is possible to move from all methods to the qualitative background, but not from the background to other methods.

Generalization in this method is manifested as follows:

a) reducing the number of types and backgrounds;

b) moving to a more coarse division (classification) and combining two or three types or combining agricultural regions into one, eliminating transitional forms (shapes);

c) correcting the boundaries between types and agricultural regions; d) reducing small areas to a single, comprehensive area by eliminating them.

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