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Creating Electronic Maps From Aerial Photographs Using Digital Aerial Cameras

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Annotation: *This article describes an overview and appraisal of innovations for making electronic maps from ethereal photos taken with advanced cameras. The creation and upgrading of rural and other electronic mapsis carried out primarily with the assistance of aerial photography, which guarantees quick and high-quality creation of electronic maps.*

Key words*: electronic map, aerial photography, decoding, raster.*

INTRODUCTION

Introduction

When choosing a technological scheme for creating electronic maps (plans), three main factors are taken into account:

- the accuracy of the maps or plans drawn is in accordance with accepted guidelines;
- low cost of production efficiency;
- speed of production of maps or

Technological scheme of creation of topographic plans by aerial photography

After the results of the relevant field search and camera work on the decipherment are checked and accepted by the technical control department, work begins on the creation of electronic maps.

The initial document for compiling the history of

land use of the farm are photocopies of scale 1:10 000, 1:25 000 and 1:50 000, deciphered or corrected, approved by the district department of land resources and state cadastre.

Official information on the name of the village, town-type settlements, districts, centers of economic and cemeteries is obtained from the meeting of rural citizens of the same region, information on the names of foreign land users is obtained from the Department of land resources of the district and the head of the Department of the state cadastre

The land plot of the farm is a complete rectification of the field documents.

Conditional signs for the massless images of objects are usually placed perpendicular to the southern side of the phototarch frame. As an exception, it can be placed depending on the information provided in this way, such as construction, fruit and vegetable farms, cattle for livestock, sheep, etc.

The procedure for creating an electronic map of the farm is as follows:

- to create an electronic map of the farm, photocopies with the results of decoding (correction) (scale 1: 10,000) are scanned and converted into electronic form. (recorded on sd or dvd);
- decoded photocopies must be scanned with an accuracy of at least 300 dpi (dots per inch - the number of points per 1 inch);
- all elements of the scanned electronic photocopy must be clearly visible and legible;
- image quality should not be worse than the quality of the original;
- raster files intended for the production of originals must be accurate enough to meet the requirements of a hard copy and allow transformation if necessary;
- the area (effective area) of the photocurrent, taking into account the deformation, is determined by the formula for calculating the trapezoidal area (a + v: 2) x h;
- measurement of the northern and southern frames of the trapezoid, as well as its height and diagonal is performed using the "genevsky" ruler;
- the size of the sides of the trapezoid should not differ from its theoretical size by 0.3 mm, diagonally by 0.4 mm;
- agricultural maps are created in accordance with the gauss-kruger projection and the unified state coordinate system adopted in 1942 and 1963 in relation to the level of the baltic sea;
- files obtained by vectorizing (drawing) raster materials must meet the following requirements:
- the average image capture error should not exceed 0.2 mm. (excluding the average error in creating the primary history);

- in the process of building (vectoring) an electronic map, the lines should be drawn along the axis of the lines reflected in the raster and should not deviate from the lines reflected in the raster;

All topographic elements used in the electronic map are for land use, state land accounting and land cadastre purposes 1:10 000 and

Instructions for decoding photo history and aerial photographs on a scale of 1:25 000 and classifying (classifying) the lands of buildings, structures and settlements are classified according to a single classification:

- the accuracy of the map and history should correspond to the accuracy of the primary material;
- must correspond to the location of the object indicated on the map or date and the location reflected in the source material;
- map or date must be marked with symbols,
- all names on the map or history must be written in the state language;
- the work carried out on the requirements of the technology of creating the basis of the intermediate and final electronic map history should be regularly monitored;
- independent control by the contractor; control by the contractor at the end of the working day;
- supervision by a second person, the work performed should be analyzed by a second specialist or a direct supervisor with higher qualifications.

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