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# Writing In Drawing and Cartography

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***Abstract:*** ***Technical drawing cartographic plane refers to the graphical representation by certain rules and regulations established by standards and conventions with respect to geographic regions or areas of land landform, physical, natural, construction and existing design. This paper examines knowledge of standards and rules established by the Convention on flat graphical representation of geographical regions.***

***Index Terms:*** ***Land, Cadaster, Topography, Surface Area, Cartography.***

## I. INTRODUCTION

This is supplemented by the name of representative elements of the plans and maps that help decipher the writing elements and their indicators. With wide utility as cartographic documents, maps and plans elements are grouped into several categories. Are distinguished in the literature, are generally two types of classification of these elements. Some elements map authors grouped into two categories: items that elements outside frame and inside the frame (Nastase, A. 1983 Russian, I., Buz, V, 2003).

## II. CARTOGRAPHY EXAMPLE

Other authors (Buz V. Sandulache, A. 1984) grouped these factors into three categories: mathematical elements, content and preparation. We believe that this group is more useful for understanding exactly these issues. The math's is based on geometric map. They are included in this category the following elements:


**Figure 1 - The Scale of Proportion**

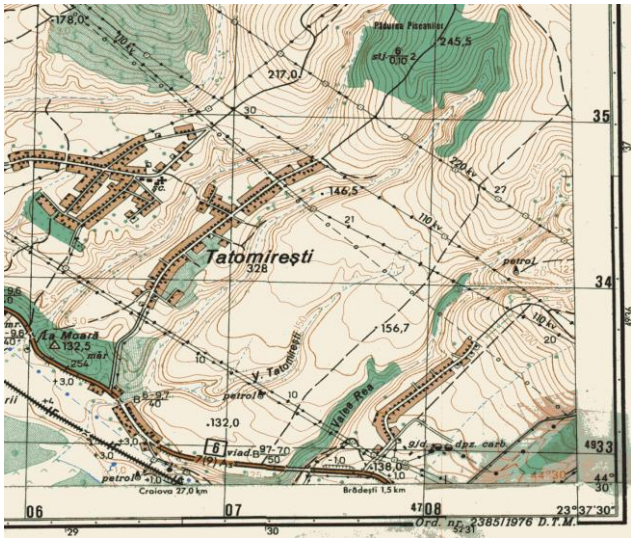


**Figure 2 – The Scale Map**

The line comes into contact with drawing space is called internal frame. Parallel to this, within walking distance is the external or ornamental. Between the two is the degree, which is actually the mathematical framework element map.

The latter is divided into colored segments alternating black and white, showing the parallel and angular dividing meridians.

The parallels and meridians can be the same, in which geographically is called. In case the parallels and meridians does not correspond to it is called frame geometry. Shape, the ellipsoid may be trapezoidal, rectangular, square, and circular, according to the projection system in which the map was made. In case the frame has a square, rectangle or trapezoid corners are overlooked precisely its geographic coordinates.

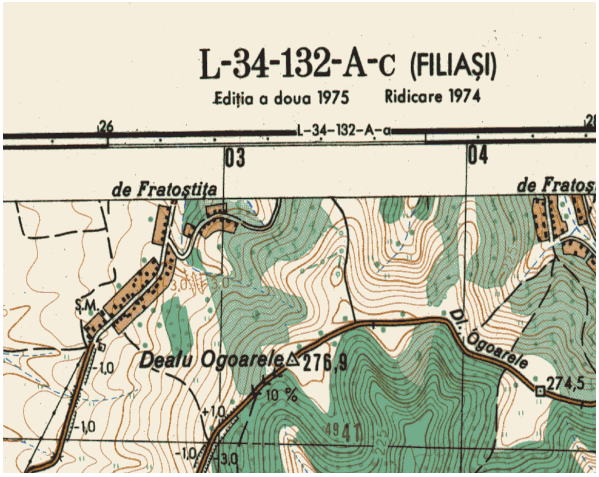


**Figure 3 – Nomenclature**

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The geodesy-topographic base consists of points with known coordinates with maximum precision points behind drafting papers, which is why they are also called support points of the map.

They are three categories: astronomical, surveying and topographic surveys. Astronomical points (or fundamental) are points whose geographical coordinates were determined by astronomical methods. Coordinates are independent of the shape and size of the Earth. In general, astronomical observatories in each country can be in raising geodetic basis points higher. In Romania, the first fundamental point is Observatory near Bucharest, which is the foundation of the map.

The points are points determined by geodetic surveying methods, which take into account the shape and size of the Earth. The most important of them are checked by astronomical methods. Depending on their importance, geodetic points are divided into three categories: - first order geodetic points that are vertices of triangles land sides between 40-50 km or 70 km. They make up the so-called primary triangulation strings, which stretch along the main meridians and parallels of a country.

Our country on the meridian passing three primary strings (one international connecting North Cape and Cape of Good Hope) and three rows in parallel (between the two international: parallel 45 ° N and 47 ° 30'N latitude).

Primary triangulation chains are linked by chains of triangulation-order complementary. - Second-order geodetic points that are vertices of triangles with sides ranging from 10 to 25 km. - third order geodetic points that are vertices of triangles with sides between 5-10 km.

These points form the so-called geodesic skeleton of the map of a country. On the ground, these points are marked by special signs, made of wood with concrete base in the minutiae of the land, so as to be visible from great distances. The geodetic position of the points on the Earth's surface is obtained on the surface of a body passing the imaginary geometric (reference ellipsoid) and the ellipsoid is projected on a flat surface graphically or by calculation. Points are derived from topographic surveying points by topographic methods and are included in orders IV and V. They make up Canevas Topographic map. To these points determine the plan metric and altimetry position of physic-geographic and economic-geographic map, representing the earth's surface details.

The graph tilt slope is in the form of a curve that is used to determine slope values without calculations (in expeditiously).

Usually there are two graphs of the slope that are built taking into account the equidistance of the contours: one for the normal contour, the other for the top-level curves.

One of the most popular graphical methods for determining the angle of slope lies in the overlapping distances of contour graphs on a slope inclination chart and read on this slope in the area.

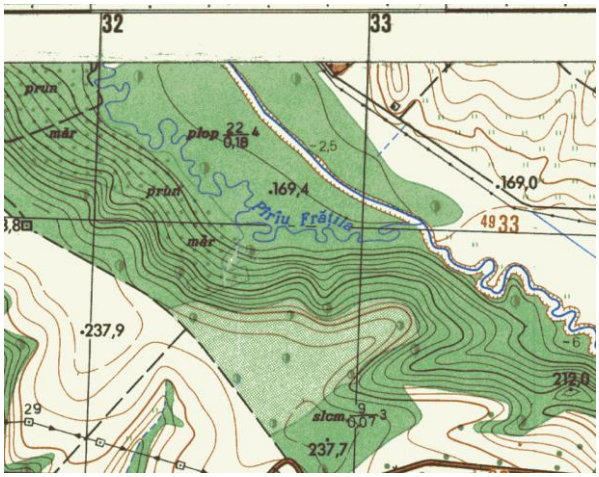


**Figure 4 - The Graph Tilt Slope**

Canevas system or assembly lines represent geographic coordinates or coordinates of the rectangular plane. The geographic coordinates are represented by a network of parallel and meridian which is Canevas geographical and rectangular coordinates by straight horizontal and vertical lines representing abscissae and tidy.

The canevas geographical network is obtained by translating parallel and meridians of the globe on a plane through a projection mapping. Canevas rectangular, seen especially in topographic maps, geographic and leaves the Canevas is drawn starting at the intersection of a meridian and a parallel. In this intersection go meridian and parallel tangents and draw these tangents are parallel lines of km km, thus resulting in a network of squares or 1 km away. For this reason, this is called Canevas Canevas miles.

The sides of the squares that make up the network have different values depending on the map scale: scale 1: 25000, length graphic side is 4 cm and is field 1 km, scale 1: 50,000, side 2 cm corresponds to field 1 km at a scale of 1: 100,000, side 2 cm is 2 km on land and at 1: 200,000, side 2 cm is 4 km in land. Values are submitted kilometer network between the inner and geographically over the next map.

The elements of the content are considered to be within the frame represented in the map or drawing in the content space. These can be grouped into two categories: physical and geographical (relief, hydrography, vegetation, soils) and socioeconomic (settlements, roads, economic and cultic details, granite).

The preparation or mounting elements of the map include information absolutely necessary for understanding and using the map. Some of them refer to the drawing paper. This includes the title, type papers, destination, legend, author, documentary materials used. As we have seen so far, the most important elements were scale mathematical framework and nomenclature of the map. No less important are geodesy-based and topographic elements orientation, slope inclination and Canevas chart. Because the elements are representative of many kinds, writing in technical drawing different characters mapping will be used for letters and numbers in relation to the scale of the map or plan has been drawn up.


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For the same type of plan or map, differentiating elements represented are made for different nominal sizes and different inclination for writing letters to tilt the base row.

To use roman letters, italics round and battered and for use in Arabic and Roman numbers writing block is used for topographic plans and writing Roman type, italic and block is used topographic maps to scale 1: 5000 ,, 1: 10,000, 1: 25,000, 1: 50,000, 1: 100,000. Topographic maps on the scale of less than 1: 5000 using all kinds of writing. The letters may be written vertically tilted left or right at an angle of 75o to the baseline of the row.

In drawing cartographic use three types of writing

- writing normal;
- writing narrow.

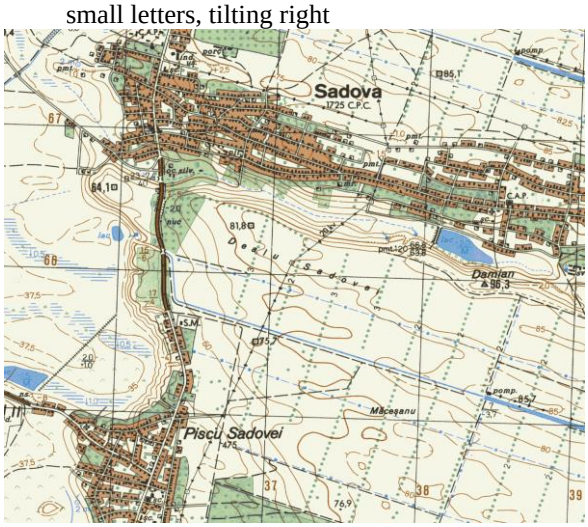
In relation to the details shown there are the following rules for the disposal of writing:

- parallel to the plan, the right detail; or when space does not allow registration can be made where possible, maintaining the following elements:
  - Name places, buildings, peaks, lakes, small springs;
  - numbers and name of the base points, terminals kilometer shares, signs border (boundary surfaces).
- parallel to the plan and within those accounts all over, reading the black use: will pass the names of administrative divisions and elements of soil and vegetation;
- hydrography is disposed parallel white lines between or outside the banks; depending on the length of the bed;
- the prevailing direction of direction will enroll name rivers, streets, alleys, gorges, valleys and ridges;
- the breadth and depth of water streams will enroll the width of the watercourse;
- all other inscriptions shall be placed parallel to the plan;
- inscriptions will not be crossed lines; - except writing block letters of others characters are made up of thick and thin lines.

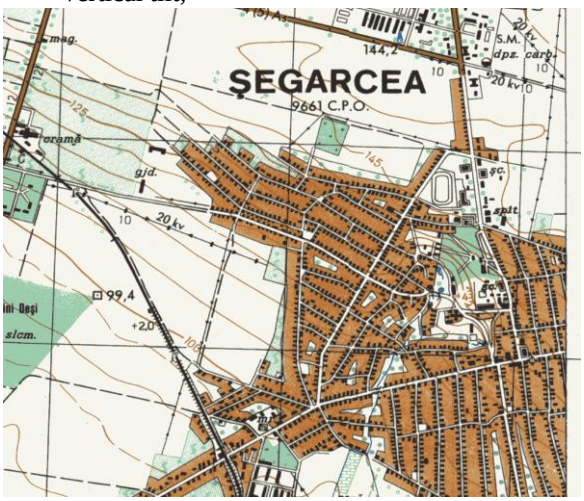
Exemplify many ways writing on plans to scale 1: 25,000:

1. for the county towns nominal height (h) will be 10 mm, and the entire word will be written in capital letters, with vertical tilt;

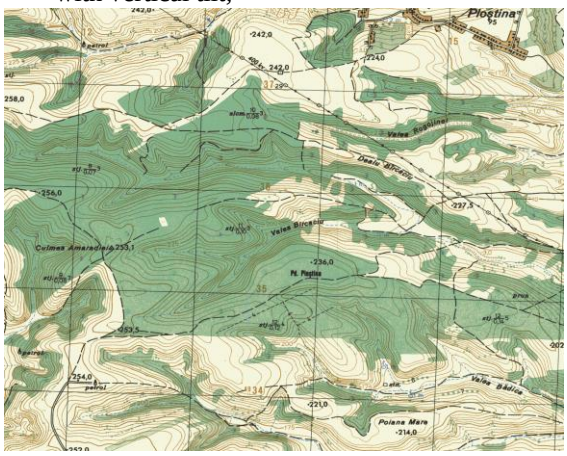

2. for localities residence common nominal height (h) shall be 8 mm, and the word will be written with the first letter capitalized and the rest of the word will be written in lower case, with vertical tilt; for subordinated villages nominal height (h) will be 6 mm, and the word will be written with the first letter capitalized and the rest of the word will be written in small letters, tilting right




3. For subordinated to the needs of the urban settlements for the nominal height (h) will be 6 mm, and the entire word will be written in capital letters, with vertical tilt;




4. Forest nominal height (h) will be 6 mm, and the word will be written with the first letter capitalized and the rest of the word will be written in lower case, with vertical tilt;





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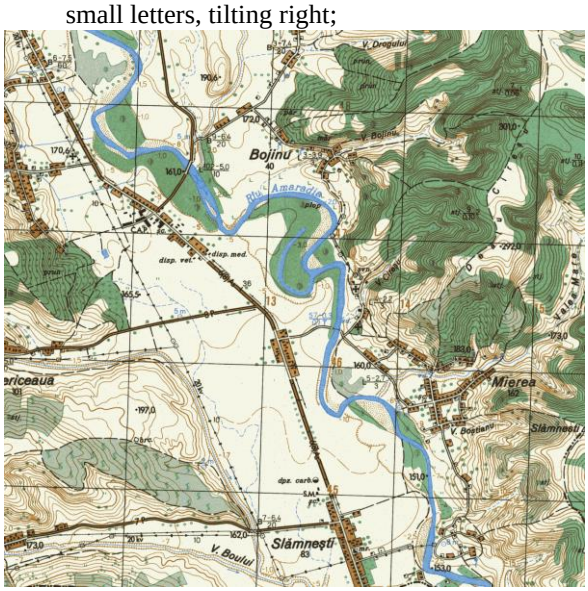
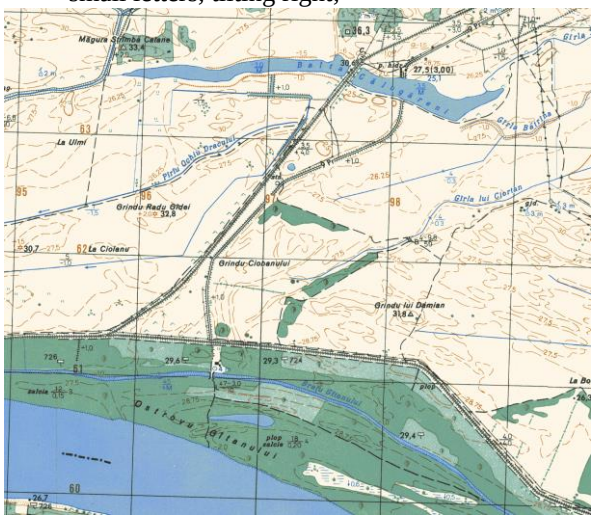
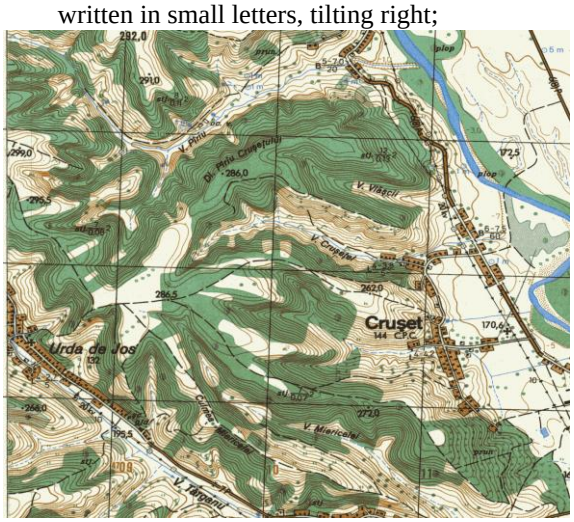
5. For secondary rivers nominal height (h) will be 5 mm, and the word will be written with the first letter capitalized and the rest of the word will be written in small letters, tilting right;



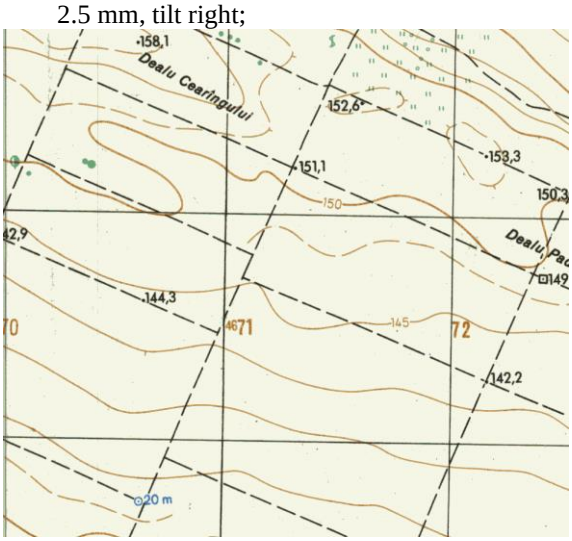

6. For floodplain nominal height (h) will be 5 mm, and the word will be written with the first letter capitalized and the rest of the word will be written in small letters, tilting right;



7. the peaks and valleys secondary nominal height (h) will be 5 mm, and the word will be written with the first letter capitalized and the rest of the word will be written in small letters, tilting right;




8. The values of the nominal height of the contour (h) is 2.5 mm, tilt right;




9. For nomenclature neighboring plans nominal height (h) will be 2 mm, tilt right


## III. CONCLUSION

The output representative elements of the plans and maps that help decipher the writing elements and their indicators. The simplest definition that might give the map representation is lowered a portion of the Earth's surface.

The definition contained has the quality to be very concise, but at the same time the drawback of not fully restore the notion of map content. This is seen from an analysis by briefly of the map.

First, it is found that the map is a representation of the ground surface level. This distinguishes the representation in the form of balls, which are spread are reduced although the most accurate. Instead, the map is recorded deformities known. As the play map large portions of the Earth's surface, the realization they take into account the curvature of the earth's surface, while the plan is not necessary to take into account the curvature. Another feature is easy to see that the elements present are reduced as exact mathematical basis, at a certain scale. This gives the required accuracy in different practical activities or research.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It also notes that the map is not a picture of the earth's surface. Elements of the earth's surface are shown in some drawings that sometimes do not like elements of nature. Those drawings are conventional signs, which mean that the map is a conventional representation. Further notes that on the map do not play all the land, but they occur depending on the size represented only the most obvious elements. So we can say that it is a cartographic generalization.

Regarding the content of the paper may contain finds that maps to represent all the possible (natural and man all the elements of a territory) is called the overview map, and some appear only one element is called special paper or thematic maps.

Taking into account the characteristics of the above, it can make a more complete definition. The map is a representation in plan, shrink, conventional and generalized earth's surface, natural and social phenomena from a point made on mathematical principles and a certain scale, taking into account the sphere of the earth.

The plan is a representation of the same features as the map, the differences being that play a smaller area of land, but with more detail and with great precision. Since large scale does not allow playback of large areas of land, land portions represented is considered flat, so it takes into account the sphere of the earth.

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