

# STANDARD TOPOGRAPHIC MAPS OF TURKEY SCALED 1:5000

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## A b s t r a c t

Mapping is a very important task in developing countries. Since many technical projects have to be achieved in a short period, have to be based to precision maps. In this paper Standard Topographic Maps of Turkey scaled 1:5000 are explained briefly.

## INTRODUCTION

Map making in Turkey in modern sense was started in the beginning of this century. The first coverage of country by a series of map was military demand as same as many countries. The topographic maps scaled 1:200000 was realized in 1925. After that, a new topographic map series in larger scale was planned as a base for technical projects. The series which is in scale 1:25000 and 5559 sheets was completed in 1972. These maps are used for planning of projects but not suited for project making.

For preparation and application of technical projects for development of a country have to produce topographic maps in larger scale. As many institutions of country were produced maps for their needs, in 1961 a law numbered 203 was accepted for organizing map making. According to the law General Command of Mapping (GCM) and General Directorate of Land Registration and Cadastral Survey (GDLRCS) have charged for production of Standard Topographic Maps scaled 1:5000. For organizing map demands between ministries a coordination committee was set up. Any office needs these maps, asks the committee for production. The committee collect all

demans and make a programme for future works and divide them between two institution.

ST series is planned for the area of 500 000 sq km. About 70% of the object was realized at the end of 1987.

## 1. THE AIM OF STM MAPS SCALED 1:5000

The main aim of STM is to produce base maps for multy purposes economic and social projects. Some projects are cadastral works of rural area, irrigation projects, improvement of land, land reform, etc. Exept these, STMs are used in many institutions related to parcels. Precision is the most important thing in these maps.

## 2. THE TECHNICAL SPECIFICATIONS OF STM SCALED 1:5000

In Turkey Hayford's Elipsoide 1910 was accepted as reference elipsoide and Gauss-Krüger Projection with 3<sup>0</sup> zones, in 1932. Aerial photogrammetry is used. Control points dansification is made by area survey. Aerial triangulation is not used much.

Control points dansification is made in two ways. The firs one is free placement method. The second is chains method.

a) F r e e p l a c e m e n t m e t h o d : In this method of triangulation, control points established according to topographical which is called "havuz yöntemi" (tree control points have to be placed at least at a determined distance in all directions according to model to be reconstructed). First, second and third order triangulation points which are on area are used also.

b) C h a i n s m e t h o d : In this method control points are placed in a geometrical pattern which each point have to be at a corner of a stereoplotting model. Control points lay on a line in both sides and have not to be established at higher

places.

Triangulation surveys and calculations are based on state triangulation net.

The size of a sheet is 1,5X1,5 .Control points are placed that the stereoplotting models should be in east-west or in north-south on the sheet.

The areal photographs are taken by a camera as,  
115/180X180mm in east-west 1:21000 photograph scale,  
in north-south 1:17000 " "

or

152/230X230mm in east-west 1:16000 " "  
in north-south 1:14000 " " .

A lot of first order stereoplotting instruments are used for stereoplotting.Photomap is not used.

Sheet bases used in each institute are different.At GDLRCS astralon is used and fair drawing is by inking.Sepia for contour lines and black for other details are used.At GCM scribe sheets are used.

Scribed sheets are reproduced by photographic process on films with poliester base.Inked sheets are reproduced by positive proof method on astalon.Diazo copies are made for field work.

### 3. PROBLEMS ON PRODUCTION OF STM

a) The object is to be mapped in scale 1:5000,the area of 500 000 sq.km.The area of country is 776 000 sq.km.So the object would be enlarged.

b) Forest,some uncultivated and undetailed areas which are not in object area can be mapped by photo map method.Photo

map represents these areas better than a line map.

c) As some sheets which are planned to be used for a project are not ready as the others are ready but have not used yet.

d) Some sheets are not up to date. Many changes can be seen on the ground but not on the map. Revision wasn't done.

e) Due two different methods used for the same series some small problems can be seen.

f) In production of map automation is not used widely.

Although STM have these problems, are used all over the country and satisfy the map users.

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