

A DIFFERENT APPROACH TO THE CARTOGRAPHY & GIS INTEGRATION

Author: Ali ULUBAY , Maj.Dr.Eng.

General Command of Mapping

06100-Cebeci/ANKARA/TURKEY

e-mail : aclubay@hgk.mil.tr

In recent years with the development in computer technology great advancements have been achieved in traditional cartography, in GIS and in all the fields related to these topics. These changes made it possible to establish Digital Cartographic Models (DCM) parallel to the needs and to produce maps in a short period of time in accordance with the purposes. These developments caused to leave the traditional techniques in classical cartography.

Beside the advantages of GIS in Cartography, it enables to make geographic and cartographic analyses in 3D environment independent of scale and it can easily store and presents geometric information and attributes related to geographic data. With the addition of 3D visualization and animation to the general design of Cartography, several alternatives have been revealed in DCM. As a result of this, visual and analytic integration have gained importance. Thus potential problems have been solved more easily, the rate of mistakes have decreased, the duplications have been prevented. Consequently they provide to use the resources with less costs in an optimum way and to solve the problems with less sources.

In this case, at the beginning, besides the developments of 2D, 2.5D and 3D cartography the visualization techniques and DCM are mentioned and later the implementation related to the integration of GIS & Cartography is presented. The prepared model shows how to use digital layers including geometry and attributes with the integration effectively in the solutions of problems and in the visual presentations. As the implementation the control of constructions around airports and maintenance of secure flight zones have been taken into account. In addition to the 3-D demonstration of the calculated Obstacle Limitation Surfaces (OLSs), the identification of real world objects exceeding these surfaces by GIS and techniques in their cartographic demonstration are explained. Finally a general idea about the formation of dynamic information systems and dynamic demonstration modelling of aerodrome with the prepared digital cartographic bases using new techniques has been formed.

This abstract of original paper is prepared for Oral Presentation in ICC 2001, Pekin (Beijing), and it is considered to be covered in technical session "SPATIAL DATA VISUALIZATION".