

NEW HORIZONS IN MODERN CARTOGRAPHY

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Usually people cannot differ between GIS and digital cartography but indeed they are two separate objects that one is necessary for the other one. Data and information should be gathered and prepared at first and then converted to the GIS Ready format which is the most important of cartography results. Using GIS we can store, maintain, manage and analyze GIS Ready information in the GIS software. Today's GIS technology grows speedily and we see results of advance technology in service oriented GIS web sites but we do not pay attention to the basics of it.

On the other hand if we cannot gather and prepare suitable Information with GIS Ready format for SDI or GIS applications, then we cannot use it. Changes in information management technology caused changes in methodology of producing GIS Ready information but it seems that speed of progress in GIS is not comparable with speed of producing GIS Ready information. Scientists should find suitable ways to increase speed of producing GIS Ready information. Service oriented technology created new opinion to do GIS Ready process in widespread area by using of service oriented technology.

In order to use advance technology at first we should know service oriented capabilities and applications and design some executable programs using this capabilities. Today's most of cartography staffs are using CAD software family. These software (AutoCAD, Microstation and so on) are commonly used by engineering staffs but special processing such as data editing, generalization, thematic mapping, topology creating, database designing and GIS Ready processing should be performed by GIS and cartography experts. Using new programming languages alone with service oriented capability we can solve some of the above problems. On the other hand we want to introduce new methods or tools for none expert people to produce professional GIS-Ready data or thematic maps. This issue is considered tie points in GIS Ready process and map production.

The first limitation for civil engineering is lacking knowledge of basic concepts of cartography such as projection, topology, data mining, spatial references and so on. These subjects refer to basic definition of geo science and can be performed easier by software development and some programming however at least some technical knowledge is required for none expert staffs.

The second limitation for civil engineering is suitable tools to produce advanced map such as generalization, data processing, data editing and data mining. This issue is concentrated on expert methods to solve above limitations.