The Missing Resolution in Geographic Information Systems

Prof. Dafer Ali Algarni
King Saud University
Civil Engineering (Surveying Program)
P. O. Box 800
Riyadh, Saudi Arabia, 11421
www.dr-algarni.net
algarni2003@yahoo.com

The success of any Geographic Information System (GIS) depends mostly on the success of integrating various geo-information sciences and technologies. The geo-information itself is characterized mainly by the accuracy of vector data, and resolutions of raster data. The accuracy of measurements in space technologies is improving rapidly and have reached 1: 10^7. Likewise, all types of resolution, namely temporal, spectral, radiometric, and spatial are enhancing dramatically. For instance, while the temporal resolution is being reduced to a day or so, the spatial resolution is approaching a few centimeters. It is apparent that accuracies and resolutions pose no difficulties in geo-information technology. Advancements in technology indicate that remaining technological problems regarding accuracies and resolutions are to be overcome in the near future. Although the two crucial aspects are under control there seem to be some sort of deficiency in the GIS technology. The question then arises whether there is a missing resolution that should be taken into consideration in order to increase the amount of automation in the GIS. This paper is an attempt to address the automation problem of the GIS and introduce such a vital missing resolution.

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