

Geographic Information System

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Introduction

Geographical information system can be defined as the system that has integrated data in the form of the software as well as the as hardware, designed to manipulate, control, capture, accumulate, investigate, analyze and store all the types of geographical data. In easier terms it is the system that is used to interpret and analyze the information regarding the relationships and association with the maps and reports, charts particularly in reference to geographical information.

Discussion

GIS is the digital relationship of space and information. GIS applications refer to all the tools that are related to the GIS system and are used to analyze and interpret the data and to make use of that data and information. There are many methods and technologies that are used with the GIS but the most common one is digitization. This is a simple technology that is used to create the mapping and the data by saving the hardcopy of the survey plan or a map in the digital medium by using a program called CAD with respect to the geo-referencing capabilities. By using the technology of the ortho-rectified imagery that is obtained from the satellite or by other aerial sources, the main data and the resources are taken out to be used in GIS (Lloyd, 2010).

The accuracy and the certainty of the correct data are dependent on the source data and the accuracy that has been provided from the point of reference. It has been possible to give more accurate information about the position of an object with the help of GPS-derived positions. The high-resolution imagery and the aerial views of terrains, the powerful and the acutely designed

computer aided machinery and support, and the availability of the internet and the development in the web technology are all important factors that played a mentionable role in the quality and usage of the GIS on the positive aspect(Wise, 2002). It helped to develop information about the society on a grand scale to make the positive change for the society on the whole.

The main and the authentic source of data that is being used as the most authentic source of the data are obtained through topographical maps. Aerial photography and satellite images are primary sources that are used to create layer of the images and information over a location facsimile of scale. The most important aspects on which h these layer and the imagery are dependant; the scale and geographical rendering (Chainey & Ratcliffe, 2005). This adds to the qualitative analysis of the system where as, to obtain the quantitative analysis the question of the precision and the accuracy is raised to focus. In short, the data obtained through the GIS are inherently inaccurate and therefore, the extent of inaccuracy in unpredictable in the GIS operations.

The data image of the GIS operational system is represented in two major forms, that is, raster images and vector and the other is "3D color image" that is in the form of three-dimensional points with RGB information. Similarly, GIS is also made to capture the data through the data capturing. Data restructuring is another method that is used for the conversion of the data into different formats. Therefore it is one of the easier way of positioning system.

Conclusion

The spatial analysis that is being carried out by the GIS system is used to by the analyst in order to read and incorporate the geographical information. With the advancement in the technology, there have been more tools that are being added to the GIS and its supporting

system. This has also increased the accuracy and the precision of the maps and the position methods.

References

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