

GIS EVOLUTION AND FUTURE TRENDS

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Information has always been the important aspect of effective decisions. Spatial information is particularly complex as it requires two descriptors. For thousands of years the link between the two descriptors has been the traditional, manually drafted map involving pens, rulers, planimeters, dot grids, and sheets. Its historical use was for navigation through unfamiliar terrain and seas, emphasizing the accurate location of physical features.

More recently, analysis of mapped data has become an important part of understanding and managing geographic space. This new perspective marks a turning point in the use of maps from one emphasizing physical description of geographic space, to one of interpreting mapped data, combining map layers and finally, to spatially characterizing and communicating complex spatial relationships. This new vision has set the stage for entirely new geospatial concepts and tools.

Interesting characteristic of the new processing environment is the full integration of the global positioning system and remote sensing imagery with GIS. GPS and the digital map bring geographic positioning to the palm of your hand. Toggling on and off an aerial photograph provides reality as a backdrop to GIS summarized and modeled information.

In addition to the changes in the processing environment, contemporary maps have radical new forms of display beyond 2D planimetric paper map. Today, one expects to be able to drape spatial information on a 3D view of the terrain. Virtual reality can transform the information from pastel polygons to rendered objects of trees, lakes and buildings for near photographic realism. Embedded hyperlinks access actual photos, video, audio, text and data associated with map locations. Immersive imaging enables the user to interactively pan and zoom in all directions within a display.

Today, Geographical Information Systems (GIS) is very useful technologies in all fields of human activities. IT is on everyone's desk, PDA and even cell phone. In just three decades it has evolved from science to sharing interactive maps of the family vacation.

The use of GIS, promotes quicker solutions for technically complicated geographical problems.

Nowadays GIS are powerful tools that are used for storing, retrieving, transforming and displaying spatial data. GIS are quickly becoming a technology for the automated capture, management, analysis and presentation of location-referred data all over the world.

This ability to store and retrieve data about special aspects of the earth and the way people live on it and the potential to use these data in models of environmental and socioeconomic process in order to learn more about the possible outcomes of natural trends, planning decisions or disaster is very important for industrial and developing countries.

GIS technology has greatly changed our perspective of a map. It has moved mapping from a historical role of provider of input to an active and vital ingredient in the process of decision-making. Today's professional is challenged to understand this new environment and formulate innovative applications that meet the complexity and accelerating needs of the twenty-first century.