

Geo Informatics: Overview

Topics Covered:

1. Concept of Geo Informatics
2. Geo Informatics & Allied Branches

Simple

Easy to Understand

General Language

Overview

Geo Informatics is an important and interdisciplinary subject which is responsible for collecting different kind of spatial information. Geo Informatics is closely associated with few other subjects viz. Geo Information Science, Geo Information System, Remote Sensing, Earth Observation etc. Geo Informatics is an interdisciplinary field responsible for combining both Geo Science and Information Science. In Geo Informatics different kind of technologies of IT and Computing are widely used (in the spatial data management) viz.

- Database Technology,
- Network Technology,
- Web Technology,
- Multimedia Technology etc

In spatial data management Geo related information are collected, stored, organized and process. Geo Informatics or GIS is widely used in different sectors viz. Government, Education, Transportation and Tourism and here more improvement are possible with the help of Geo Informatics. This is one of the environmental friendly tools and concept and widely used for different purposes. This paper is talks about Geo and Environment related Information field, paper also talks about the applications of GIS and Remote Sensing in different fields and subjects.



Geo Informatics & Allied Branches

Geo Informatics is an important branch of Geo Sciences having the interconnections of IT and Geo Sciences. It is the applications of Information Technology in Geo and Earth related Sciences. Geo Informatics is helpful for environmental promotion and especially ecological management. There are few subjects which are closely related with the Geo Informatics and among these few important are include—

- Geo Information Sciences.
- Geo Spatial Sciences.
- Environmental Informatics.
- Geo Information Systems.
- Remote Sensing.
- Geo Computing & Earth Observations etc.

There are different applications of Geo Informatics and these are increasing day by day due to its importance and role in the environment and societal development.

Initially GIS was restricted on environmental related issues only but now in other areas viz. Education, Healthcare, Transportation and Tourism, Governance etc it is widely applicable and gaining rapidly in other emerging areas.

Note: The Contents authorship: Dr. P.K. Paul & Prepared from his own contents, papers, research and academic works itself.

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Geo Information Systems: Applications

Topics Covered:

Simple

Easy to Understand

General Language

1. Geo Informatics & Its Areas
2. General GIS Applications: An Overview

Geo Informatics & Areas

Geo Informatics is actually dedicated to collecting and analyzing Geo Spatial Information with the help of tools and techniques. Geo Informatics is also commonly referred as Geographical Information Systems; however there are some disparities between two. Practically information and Geo Science creates a domain called Geo Informatics. It is dedicated to creation of knowledge based on Geology, surface, weather forecasting and so many related fields. Geo Informatics mistakenly treated as Geo Information Science; though it has so many differences like, Geo Informatics is treated as practicing field; whereas Geo Information Science may be treated as field of academic in nature. Geo Informatics programme offered in some allied departments such as Earth Science, Geography, Geology, Environmental Science, Bio Science and so on.

General GIS Applications: An Overview

The applications of Geo Informatics and remote sensing is eye-catching, the following are few areas and reasons for its (Geo Information Systems) adoption—

- To build a sophisticated and intelligent Geo Information Systems and Spatial Sciences.
- Collection, analysis etc needs the spatial data for sophisticated Disaster Management as well as development.



- GIS and remote sensing requires for better Public Administration and disaster Management.
- For the transferring data from hard copy to digital copy or may be digital to traditional copies, GIS and Remote Sensing are required.
- GIS and Remote Sensing is required for the mapping, analyzing, longitude, latitude as well as atmosphere measurement
- The field of Zincography is also used for spitting map to map with respective layer and thus complete sustainability become easy.
- With the help of Geo Informatics practice and specially GIS applications the Environmental Mapping, Environmental Monitoring, Environmental Design and Development of Water Network, wired system become easy.
- GIS and Remote Sensing made easy the basic designing of traffic control; ultimately healthy Urbanization and Rural Development.
- Measuring water systems, weather and climate systems for healthy Geo Informatics practice.
- Topographical modelling is vital for sustainability and GIS and Remote sensing is an important tool in this regard.

Environment is an important name for the development. The Environment and Ecological Management are very important for healthy and sustainable world. The environmental related areas viz. Environmental Science, Environmental Technology, Environmental Management, Environmental Engineering etc and in all these areas GIS and Remote Sensing becomes an important tool.

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GIS & Remote Sensing Applications: Sector Specific

Topics Covered:

1. GIS & Remote Sensing Applications: Basics
2. Field/ Sector Specific RS Applications

Simple

Easy to Understand

General Language

Overview of GIS & RS Applications

Day by day the application of GIS are increasing the digitalization become Important tool for development and here remote sensing and GIS thus an important tool. Apart from this above areas the remote sensing may be applied in following areas—

- TD mapping at Uranium enrichment place.
- Arial photography of military and soldiers are another name for remote sensing application.
- Assessment of Road condition especially rural areas.
- To access the place or situation of any vehicles or transportation objects. Such as- Train, Bus etc.
- Assessment of disaster management and weather situation. such as- Highly density in snowfall disaster.
- Collecting earth picture from the space.
- Minimizing and controlling forest fires remote sensing may be used.
- Detecting land covered and land uses remote sensing may be used
- In digital marketing also remote sensing tools may be used.
- In port management and ship management, GIS and remote sensing may be widely used.
- As far as fishing activity remote sensing and GIS system may be used.

Application of GIS in Government

Geographical Information System and Remote Sensing are widely used in different sectors and areas of Government. Such as-

- In public administration GIS and GPS tools may be used.
- Managing and communicating large number of ministries, department become easy with GPS administration.
- Disaster Management, disaster recovery environmental hazard management may affiliate its benefit.
- Accountability of government properties becomes easy with GIS.
- Accountability and management of roads and transportation become easy with this Application.
- In general election also GIS and GPS tools may be useful.
- Public safety becomes easy with the help of GIS application. Such as Fire prevention, Emergency operation, Demographics, Water management etc.
- Electrification, problem of electrical engineering affairs, land management, land conservation etc affairs may be also done with GIS application.

Application of Remote Sensing in Medical and Health care

Remote Sensing and Geographical Information System has its importance in medicine and health care related affairs. For the promotion of medical geography and medical tourism, GIS is important. With the help of GIS the initial assessment (Socio-economy and environmental) became possible. To chalk out the territory requires health related affairs became easy with the help of Remote Sensing and GIS application.

GIS in Education

GIS is widely useful in Education, Research and Training related activities. Educational Mapping, Educational Conditional assessment, future potentiality becomes easy with the help of GIS Application. Like this many other applications of Geographical Information System may be possible. For Instance—

- Educational Policy maker can use GIS.
- Educational mapping of campus become easy with GIS application.
- GIS may be applicable in School, College and University bus monitoring and route direction.
- GIS and Remote Sensing may help campus Security and Management.
- In survey and allied activities GIS and Remote Sensing tools may be applicable.
- Tracking of Educational Document is easy with the help of this application.
- E-Learning may get the benefit of GIS application. Such as- MOOCS (Massive Open Online Courses).
- Application of GIS including GPS may help in relationship between educational data and attributes.

GIS in Public Health

Geographical information system is an important technology which may be applied in medicine and particularly public health. Public health deals with the health care solution for the common people and population. It is focused on prevention rather than treatment. GIS is a helpful tool for identification of disease status. It is also important to note that GIS technique is also helpful for knowing lack of co-relation between cause and effects and different statistics related to public health.

The development of the society, environment and disaster management should be initiated and applied as much as possible and here GIS and GPS tools may be used. However skill manpower, research and development activities are essential to establish to reach such a desire goal.

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