Geographic Information Systems

How does a GIS work? Relaying information from different sources

Data capture

How can a GIS use the information to map? Data capture is the process by which raw information is transformed into a digital format that can be used in a GIS. This includes gathering data from various sources, such as maps, aerial photographs, field surveys, and other sources. The data is then stored in a database, which can be used to create maps and perform spatial analysis.

Data modeling

It is important to understand the data and its accuracy before using it in a GIS. A GIS can be used to depict data and then perform a variety of analyses on the data, such as spatial modeling or data analysis. This allows users to create maps that show how different factors are related to one another.

What's special about a GIS?

GIS software is capable of processing a wide range of data types, from traditional paper maps to satellite images. This makes it a powerful tool for researchers, governments, and businesses.

Information retrieval

Users can use GIS software to retrieve data from a variety of sources, such as databases, spreadsheets, and web pages. This makes it easy to access and analyze large amounts of data.

Teaching modeling

GIS software is capable of teaching a variety of modeling techniques. This includes teaching users how to create and use models to solve complex problems.

Data output

GIS software allows users to create a variety of visualizations and outputs, such as maps and charts. This makes it easy to communicate the results of a study or project.

Networks

GIS software can be used to create and analyze networks, such as transportation networks or social networks. This allows users to understand how different factors are connected to one another.

Overview

GIS software is a powerful tool that can be used to visualize and analyze spatial data. This makes it an important tool for researchers, governments, and businesses.

Framework for cooperation

The use of GIS can encourage cooperation between different organizations and government agencies. This is especially true when a GIS is used to coordinate the efforts of multiple organizations.

For more information

The U.S. Department of the Interior GIS Information Office provides additional information about GIS software and its applications.