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Will Geoinformatics Change the Way We Work?

Informatics is the discipline that integrates information technologies with scientific and technical disciplines. Whereas bioinformatics developed to deal with the vast amounts of genome data, geoinformatics works with scientific data that have spatial or geographic coordinates.

The geoinformatics system will allow more than seamless interconnection of databases. The system will incorporate: acquisition of analog and digital legacy data; efficient information and data retrieval mechanisms (via data mining and web services); accessibility to and application of visualization, analysis, and modeling capabilities; online workspace, software, and tutorials; GIS; integration with online scientific journals and digital libraries; access to real time data collection and dissemination; user-defined automatic notification and quality control filtering for selection of new resources; and application to field techniques such as mapping.

The system will provide the ability to gather data over the Web from a variety of distributed sources, regardless of computer operating systems, database formats, and servers. Databases will "plug and play" into the system using front-end translators rather than forcing them into a centrally standardized database or format.

Search engines will gather data about any geographic location, above, on, or below ground, covering any geologic time, and at any scale or detail. An interactive dynamic data system creates tables, charts, or maps on the fly, each time an inquiry is made, using the latest information in the appropriate databases. A distributed network of digital geo-libraries can archive permanent copies of databases at risk of being discontinued.