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Development and application of WEB-GIS for landslide early warning system

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Web GIS provides a platform for integrating GIS with other business systems. The fast growth in web services for easy and fast dissemination, sharing, displaying and processing of spatial information has turned helping decision making for various natural resources based application. Moreover as the Internet technology takes progress, web-based GIS applications also change. Landslide database, monitoring analysis and visualization is essential to predicting the behavior of landslides and forecasting which storms can trigger large numbers of landslides. The core of the research work focuses on development and application of WEB-GIS for landslide early warning system. In this research, the main goal is to develop landslide database which will be managed by PostgreSQL / PostGIS as an object oriented relational database management system (ORDBMS) for effective dissemination, sharing and management of spatial information over the internet. An open source tool, GeoServer is used in this research work for sharing geospatial data. GeoServer is a web server that allows user to serve maps and data from various formats to standard clients. At the client side, a GeoExt tool which brings together all geospatial to build a powerful desktop style GIS application on the web with JavaScript. The purpose of the WebGIS platform is to be a tool of hazard assessment, as well as to provide a means of monitoring landslide for geomorphology expert who further analyze landslide event in the field of study. And expert and other users like decision makers and community share the output information for scientific and knowledge base.

Key word: WebGIS, GeoServer, GeoExt, Landslide monitoring, spatial Information