

A WebGIS Platform for Repository, Processing and Disseminating Urban Land-Use/Cover Maps

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This paper discusses a WebGIS designed to open up an ample opportunity for researchers and information holders to store, maintain and disseminate remote sensing-derived urban land-use/cover maps. The WebGIS platform consists of the acquisition engine, repository engine, processing engine and service engine, visualizing engine, and the disseminator engine. Firstly, the acquisition engine uses the input server to acquire classified images and other relevant source imageries and then passes it to the repository engine. The repository engine manages the data storage by extracting metadata related to imageries and by keywords, together with other metadata related to users. The repository engine also checks if there are any classified images currently stored in the system related to the same geographic location and time period. If the image is a derived work from an existing image then an image stack is created and stored with the new set of metadata. The processing, aggregation and comparison of images are done and stored in the system therefore another person can examine, use and improve with further modifications. The open source modules are created to provide visualization of urbanization process as a by-product by acquiring and processing data from the repository. Based on the classified data in the repository, the system gives a service to any website or user to display and visualize the urbanization process of any particular geographic location. The goal of the research is to establish a self-evolving WebGIS platform for repository, processing and distribution of remote sensing-derived urban land-use/cover maps for the purpose of visualizing urbanization process and other relevant geospatial analyses.

キーワード: Geo-data Repository, Geospatial Analysis, Land-Use/Cover, Remote Sensing, Urbanization, WebGIS
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