

Spatiotemporal Tile Indexing Scheme

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Large amount of satellite products have been acquired over large geographic regions for the last few decades. This increasing number of satellite products with varying spatial, spectral, and temporal resolutions makes the data management a difficult task. These images are used in many applications ranging from the creation of high-resolution population databases to monitoring biomass over large geographic regions. The complexity of managing such an amount of images for an efficient search and data discovery is increasingly becoming a problem. To solve this problem, a spatiotemporal tile indexing scheme is created. This scheme is automatically created by harvesting the meta data directly from geographic satellite images and/or ancillary data. This meta data is stored in a database where other users can access the data through a web page anywhere in the world. This web page is developed in a way where they can search for data by spatial, temporal, and spatiotemporal extents using PHP. The system that harvests the image to store its meta data in the database server was developed using C++. The stored data can be indexed to make its search much faster and more accurate. Another feature of the database is the ability to create views for the search engine to search within the results. The end result for this system is that it will be easy to use, and it can drastically reduce the time to search and retrieve the satellite data. In the future, this system can be further extended with additional query constraints to specify the search for other attributes that the data may have, for example, percent of cloud coverage in an area, and analyze other kinds of images that may contain any spatial and/or temporal data.