

# **A Web-based data-processing system for Landsat imagery datasets**

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Abstract: Landsat imagery is one of the most important remote sensing datasets, and it is widely applied in many research fields, such as agriculture, ecology and environmental sciences. However, the remote sensing data processing is a complex computing intensive, data intensive and network intensive applications and different functions of computing that may make it difficult for many non-remote sensing specialists to use it. Developing a batch-mode data-processing system for Landsat imagery datasets can benefit lots of researchers on reducing the data-processing time, and improving the efficiency of data analysis. Based on the open source toolkit - Geospatial Data Abstraction Library (GDAL), we developed a web-based data-processing system which made the use of cluster computing and parallel computing. Currently, this web-based data-processing system achieved not only the online-processing of 14 vegetation indices like NDVI and EVI, but also the online gap-fill algorithm for Landsat 7 SLC-off datasets.

Key words: Landsat imagery, Vegetation index, Gap-fill algorithm, cluster computing, parallel computing