



Siberian Earth System Science Cluster - A web-based Geoportal to provide user-friendly Earth Observation Products for supporting NEESPI scientists

J. Eberle, R. Gerlach, S. Hese, and C. Schmullius

Department for Earth Observation, University of Jena, Germany (jonas.eberle@uni-jena.de)

To provide earth observation products in the area of Siberia, the Siberian Earth System Science Cluster (SIB-ESS-C) was established as a spatial data infrastructure at the University of Jena (Germany), Department for Earth Observation. This spatial data infrastructure implements standards published by the Open Geospatial Consortium (OGC) and the International Organization for Standardization (ISO) for data discovery, data access, data processing and data analysis. The objective of SIB-ESS-C is to facilitate environmental research and Earth system science in Siberia. The region for this project covers the entire Asian part of the Russian Federation approximately between 58°E - 170°W and 48°N - 80°N. To provide discovery, access and analysis services a webportal was published for searching and visualisation of available data. This webportal is based on current web technologies like AJAX, Drupal Content Management System as backend software and a user-friendly surface with Drag-n-Drop and further mouse events.

To have a wide range of regular updated earth observation products, some products from sensor MODIS at the satellites Aqua and Terra were processed. A direct connection to NASA archive servers makes it possible to download MODIS Level 3 and 4 products and integrate it in the SIB-ESS-C infrastructure. These data can be downloaded in a file format called Hierarchical Data Format (HDF). For visualisation and further analysis, this data is reprojected, converted to GeoTIFF and global products clipped to the project area. All these steps are implemented as an automatic process chain. If new MODIS data is available within the infrastructure this process chain is executed. With the link to a MODIS catalogue system, the system gets new data daily. With the implemented analysis processes, timeseries data can be analysed, for example to plot a trend or different time series against one another.

Scientists working in this area and working with MODIS data can make use of this service over the web-portal. Both searching manually the NASA archive for MODIS data, processing these data automatically and then download it for further processing and using the regular updated products.