Overview

During the past three decades, the Northern Eurasia and Asian Monsoon regions have experienced significant changes in agriculture, industry and economics. Studies have indicated that land use and land cover changes due to climate change and human activities not only affects local climate but also influence global climate system. However, the understandings of the interaction between human activity, land processes, and climate change are limited. Having integrated interdisciplinary multi-sensor data are important for studies of climate and environmental monitoring.

Large amount of monthly and daily global satellite datasets for atmospheric, land surface, and cryosphere were collected during last three years and an automated data managing system was established supporting the Northern Eurasia Earth Science Partnership Initiative (NEESPI) project. Data tools and services, such as temporal and spatial search, parameter and spatial subsetting, advanced data downloading, are available. Most data have been integrated into the easy use Web-based online data analyses and visualizations system, Giovanni.

The established data services infrastructure will be used and improved further for supporting Monsoon Asia Integrated Regional Study (MAIRS) project. 30 years selected parameters from NASA land model (GLDAS) and atmospheric reanalysis model (MERRA) products have been integrated into Giovanni MAIRS; higher resolution (5km and 1km) land process data will be integrated. Due to the large overlap of the geographic coverage and many similar interests of NEESPI and MAIRS, collected data and information serve for both projects.

International collaborations through our project have been initiated. As decided on the MAIRS 2nd dry-land international workshop in Hohhot, Inner Mongolia, China, July 2008, working with MAIRS scientists, a product monthly portal with Giovanni for promoting data sharing. In October, we have met the project partner at NAICD [2] on a online data sharing infrastructure kick-off meeting. The English version of NAICD web page has been created as a starting step.

Search and Download Data using Mirador

Mirador is a new search and order Web tool developed by the GEO DISC. It has a drastically simplified, clean interface and employs the Google mini application for metadata keyword searches by define time span, and location. Other features include project navigation, and semantic oriented parameter navigation based on science areas. The data can be downloaded through FTP, HTTP, DownThemAll, etc. Spatial and parameter subset function is available for some products.

Other Data Access Services:
- OPeNDAP: Provides remote access to an variable within a data file directly or via analysis tools, such as, IDV, Panoply, Ferret, and GrADS
- GDS (GrADS Data Server): Provides remote access and analysis service through GrADS.
- WMS: Serves images generated from data from different remote sources
- WCS: Serves data to OGC clients (allows netCDF)

Online Visualization: WMS Service Prototype

This service allows a user to access data and images from other data service centers through the Web Map Service (WMS). Through the current prototype, user can access fire-related data and images within 24 hours from Web Fire Mapper at Univ. of Maryland; high resolution land cover map from JPL (LandSat7, highest 15m); POSTEL (MERIS/ENVISAT,300m); and daily UV aerosol index from GEO DISC (OMI, 1x1deg), etc.

References:

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