The NASA NEESPI Data Portal: Products, Information, and Services

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Overview

Studies have indicated that land cover and use changes in Northern Eurasia influence global climate system. However, the procedures are not fully understood and it is challenging to understand the interactions between the land changes in this region and the global climate. Having integrated data collections from multiple disciplines are important for studies of climate and environmental changes. Remote sensed and model data are particularly important due to sparse in situ measurements in many Eurasia regions especially in Siberia. The NASA GES DISC (Goddard Earth Sciences Data and Information Services Center) NEESPI data portal has generated infrastructure to provide satellite remote sensing and numerical model data for atmospheric, land surface, and cryosphere. Data searching, subsetting, and downloading functions are available. One useful tool is the Web-based online data analysis and visualization system, Giovanni (Goddard Interactive Online Visualization And Analysis Infrastructure), which allows scientists to assess easily the state and dynamics of terrestrial ecosystems in Northern Eurasia and their interactions with global climate system. Recently, we have created a metadata database prototype to exploit the NASA NEESPI data portal for providing a venue for NEESPI scientists to find the desired data easily and leveraging data sharing within NEESPI projects. The database provides product level information. The desired data can be found through navigation and free text search and narrowed down by filtering with a number of constraints. In addition, we have developed a Web Map Service (WMS) prototype to allow access images from other data resources.

Data Access Tools and Services

Search and Download Data using Mirador

Mirodar is a new search and order Web tool developed by the GES DISC. It has a drastically simplified, clean interface and employs the Google Mini app interface for metadata keyword searches. Other features include quick response, data file estimator, Gazetteer (geographic search by feature name), and an interactive shopping cart.

Giovanni NEESPI, An Online Visualization and Data Analysis System:

http://giovanni.gsfc.nasa.gov

Single Parameter Exploration:

- Land area plots of time-averaged parameters
- Time-series plots of area-averaged parameters
- Latitude, longitude - Time Hovmoller diagram
- Animations of consecutive Lat-Lon area plots

Multi-Parameter Intercomparison:

- Land area plots of time-averaged parameters
- Time-series of two parameter differences
- Scatter plots with regression statistics
- temporal correlation maps

Downscale:

- data in formats: ASCII, HDF, netCDF
- Image: PNG, AVI for Google Earth

Parameters in Giovanni NEESPI

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