

Prototype of the Land Measurements Portal

http://landportal.geog.umd.edu/portal/portal_home.php (beta site)

username: betauser password: vDcKX2

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Abstract

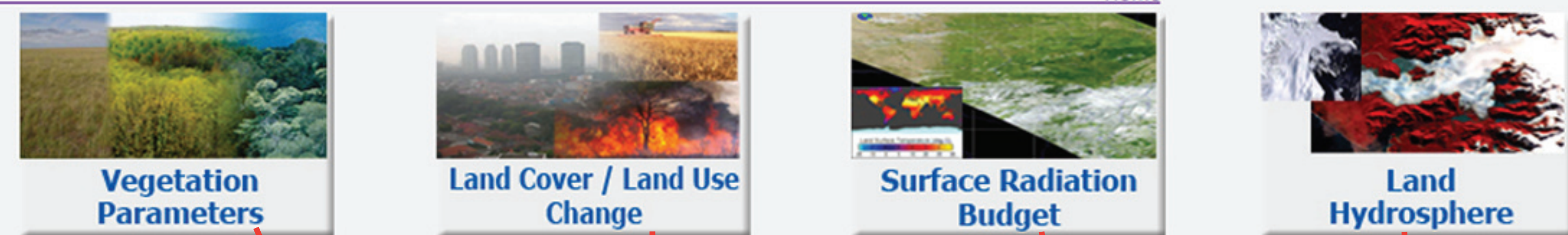
The last 10 years have seen great advances in the acquisition and processing of remotely sensed observations from an ever-growing array of sensors at multiple scales. That time has also seen an exponential growth of products derived from these data allowing researchers to better understand environmental mechanisms of our planet. While numerous products are developed and distributed through a primary source such as a space agency, many are also developed by research institutions for specific projects or with little outside knowledge of availability and often little is known about a product's level of validation. Consequently, the process of discovering which data are available for a given subject becomes difficult. The Land Measurements Portal addresses this problem by providing a single location to find information and sources of data related to terrestrial satellite observations. The portal is developed as a series of subsets to four major categories of land measurement products: **1) Vegetation Parameters**, Vegetation Indices, LAI / fPAR, GPP / NPP, Phenology; **2) Land Cover/Land Use Change**, Land Cover, Vegetation Continuous Field, Fire Disturbance; **3) Surface Radiation Budget**, Surface Reflectance, Land Surface Temperature, BRDF / Surface Albedo; and **4) Land Hydrosphere**, Snow Cover, Surface Hydrology. The portal also provides a series of news, services, and information that are of interest to the satellite land measurement community. The portal serves as a mechanism to promote international coordination with new projects and ideas and, more importantly, to emphasize further collaboration across borders and agencies.

News and Events

The portal strives to maintain a current database of useful news and upcoming meetings. Input from the community is encouraged to keep the site as current as possible, and the portal offers the means to submit articles of interest or promote a meeting. The detail pages provide a brief description or abstract and links to the parent page. Check back often for updates to these useful features.



Measurement Portal



Primary Navigation

The Land Measurements Portal is divided into four primary categories of land measurements: Vegetation Parameters, Land Cover/Land Use, Surface Radiation Budget, and Land Hydrosphere. Each of these categories is further divided into subsets of products. The primary navigation seen here is available on all pages of the portal. Clicking on the buttons below the Land Measurements logo takes the user to the parameter of interest and the subsets of data contained within each.

Current News

- Mar - 2008: [ELMETSAT and JRC agree to cooperate on monitoring climate change](#)
- Mar - 2008: [First Global LC Map at 300m](#)
- Mar - 2008: [Arctic Ice Returns, Thin and Tentative](#)
- Feb - 2008: [Earthnet Online Interactive Client Launch 5.3.1](#)
- Feb - 2008: [New RedLAI Website](#)

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Upcoming Meeting Schedule

- Sep 1 : Sep 4, 2009: [GOES-R User Conference](#)
- Nov 10 : Nov 14, 2008: [LCLUC Science Team Meeting - Thailand](#)
- May 27 : May 30, 2008: [GEOS5 in the Americas](#)
- May 13 : May 15, 2008: [VIIRS-MODIS Science Team Meeting](#)
- May 6 : May 8, 2008: [GEO/CEOS Workshop on QA & Cal/Val](#)

[Full Schedule](#) [Submit Meeting](#)

Full Events Schedule:

Event	Date	Description
Workshop on MODIS Land Product Evaluation	Feb 12 - Feb 13, 2008	The MODIS Program Office has requested that its VRS Operational Algorithm Team (Land Subgroup) review the measures and activities that are needed to ensure the MODIS land cover products meet the requirements of the operational users (as defined in the MODIS User Handbook).
Workshop: GO2/NPP Direct Readout Review 2008	Mar 31 - Apr 4, 2008	In the last few years, the Direct Readout community has made great strides in defining, measuring and testing science algorithms for routine and temporal applications. Now we plan to finalize this effort and explore the latest algorithmic approaches, systems, and their impact on science community and decision-making infrastructures.
A Workshop on Land Surface Phenology	Apr 9 - Apr 10, 2008	Learn the terminology of phenology, basics of defining data, application of time series, and key observational methods.
20th Biennial USGS Forest Science Forum: Science Synthesis Workshop	Apr 15 - Apr 17, 2008	The joint theme of "Synthesizing Science Management with Technology" will be the primary theme of this workshop. The workshop will focus on the synthesis of science and technology for forest management. Workshop objectives: 1) to share scientific research results and foster cross-agency collaboration; 2) to identify key research needs and priorities; 3) to identify key research needs and priorities for each of these programs: Cover, Biology and Biogeochemistry, Terrestrial Ecology, Land Cover and Land Use Change, Hydrology, and Ecological Forecasting.
2008 MODIS Data Users Conference	Apr 28 - May 2, 2008	The MODIS Data Users Conference is a key event in the MODIS program. The goal of the annual workshop is to review the progress made on the tasks of world-wide satellite remote sensing operations.
MODIS-08 Workshop on QA & Cal/Val	May 6 - May 8, 2008	The goal of the annual workshop is to review the progress made on the tasks of world-wide satellite remote sensing operations.
2008 MODIS Science Team Meeting	May 21 - May 15, 2008	The MODIS Science Team Meeting is a key event in the MODIS program. The goal of the annual workshop is to review the progress made on the tasks of world-wide satellite remote sensing operations.
MODIS in the Americas	May 27 - May 30, 2008	Coordinating Earth Observation and Earth Science in the Western Hemisphere (Section 080) at the upcoming AGU Meeting of the American Meteorological Society (AMS) in Denver, Colorado, USA.
GLUE Science Team Meeting - Thailand	Nov 10 - Nov 14, 2008	The GLUE Science Team Meeting is a key event in the MODIS program. The goal of the annual workshop is to review the progress made on the tasks of world-wide satellite remote sensing operations.
GOES-R User Conference	Sep 1 - Sep 4, 2009	The GOES-R User Conference is a key event in the MODIS program. The goal of the annual workshop is to review the progress made on the tasks of world-wide satellite remote sensing operations.

News Archive:

Title / Date	Abstract	Link
ELMETSAT and JRC agree to cooperate on monitoring climate change - 2008-02-18	The agreement foresees the provision of data generated by the JRC's African, Caribbean and Pacific (ACP) Observatory for Sustainable Development to African countries via ELMETSAT, ELMETSAT's near-real-time broadcast system for environmental data.	Read Article
First Global LCM at 300m - 2008-02-27	The POSTEL Service Centre has produced the first global land cover map at 300m resolution.	Read Article
Arctic Ice Returns, Thin and Tentative - 2008-03-18	Arctic ice has returned rapidly this winter after a record summer low, but it still covers less of the Arctic Ocean than it did in previous decades. NASA scientists announced today in a update of the status of Arctic and Antarctic sea ice.	Read Article
Earthnet Online Interactive Client Launch 5.3.1 - 2008-02-19	The Earthnet Online Interactive Client combines the advantages of both the online and offline catalogues. The tool provides access to the entire EO catalogues of Earth Observation (EO) products and allows the visualization of satellite data and the online ordering of EO products.	Read Article
New MODIS Data Users Conference - 2008-02-05	The Land American Forest Science Forum: Science Synthesis Workshop, a regional GOSFC-GOLD EO network, is a key event in the MODIS program. The website contains updated information on network participants, projects and related events.	Read Article
US National Land Imaging Program - 2007-09-18	The Office of Science and Technology report provides several program recommendations with regard to moderate resolution imagery.	Read Article
AGU Agricultural Monitoring Workshop - 2007-09-18	Executive Summary: Strategic investments over the next 10 years in earth observations, involving satellite observations, in situ measurements and survey could revolutionize global agricultural production monitoring, leading to improved management of our agricultural resources, helping to reduce malnutrition and contribute towards the achievement of the Millennium Development Goals.	Read Article

Submit your meetings or event news



The POSTEL Service Centre has produced the first global land cover map at 300m resolution, discriminating the land surface in 22 classes, derived from full resolution MERIS / ENVISAT data acquired in the May 2005 - April 2006. [Read more](#)

New Products

Many institutions and organizations are developing new land measurement products. The portal presents a mechanism to promote and share these new ideas with the land remote sensing community.

International Coordination

The portal supports efforts to coordinate international standards in validation and requirements. Multiple links to coordinating bodies and links to observation needs white papers are provided.

International Coordination

The international community has established several organizations to coordinate efforts and requirements for current and future missions:

- Group on Earth Observations (GEO)
- Global Agricultural Monitoring System
- Committee on Earth Observation Satellites (CEOS)
- Working Group on Calibration / Validation
- Working Group on Information Systems and Services (WIGISS)
- Land Product Validation (LPV) Subgroup
- International Global Observations for Land (IGOL)
- Global Terrestrial Observing System (GTOS)
- Global Observation of Forest and Land Cover Dynamics (GOF/C/GOLD)
- Land Cover Implementation Team
- Fire Implementation Team
- Land/Vegetation Direct Readout
- Climate Observations
- Terrestrial Carbon

Mission to Measurements

The NASA Earth science research program's Carbon Cycle and Ecosystems Focus Area and Water and Energy Cycle Focus Area are establishing a Land Measurements Team to address their observation needs for science-quality time series data records.

The new measurement team is intended to shift the emphasis away from individual mission-oriented data sets to measurements to meet the needs of the focus areas that utilize observations from different missions and instruments.

NASA ESDRs

The NASA Land Measurements Team addresses the observation needs for science-quality time series data records, to be called "Earth System Data Records" (ESDRs). These ESDRs will meet the needs of both the research and applied science communities of NASA. The ESDR white papers are intended as a basis for measurement team discussion.

Product Suites

Individual product suite pages offer the user a brief outline of the product group as a whole followed by a list of available products. The list can be refined by spatial and/or temporal resolution. This list is intended to grow as users provide more input and new products are developed. Each product has information about the product with links to or citation for seminal papers. Links are also available for a specific PI or institutional product page as well as links to available data sources.

Phenology

Land surface phenology is defined as the seasonal pattern of variation in vegetated land surfaces observed from remote sensing. While the observed patterns are related to biological phenomena, land surface phenology is distinct from traditional definitions of vegetation phenology, which refer to specific life cycle events such as budbreak, flowering, or leaf senescence using in-situ observations of individual plants or species. Land surface phenology provides aggregate information at moderate (500-m) to coarse (25-km) spatial resolutions that relates to the timing of vegetation growth, senescence, and dormancy and associated surface phenomena at seasonal and interannual time scales.

More information can be found in the [Phenology ESDR](#) white paper.

Refine by Spatial Scale: ≤ 500m > 500m

Refine by Temporal Scale: Monthly > Monthly

[Submit](#) [Reset Form](#)

Product	Description	Data Sources
MODIS - Annual Phenology for 500m EVI	Product Description	Data Sources
MODIS - Global Vegetation Phenology Product Description	Product Description	Data Sources

Sensors

The portal provides a list of current, past, and planned sensors arranged by spatial resolution, sensing technology, or pending status. Clicking on the link takes to user to a detail page providing the browser with information about spatial and spectral characteristics, mission life-time and other important parameters. The detail page also offers links to products developed using that particular sensor and a list of sensors having similar characteristics.

Sensors

Spatial Resolution Greater Than 1km
<ul style="list-style-type: none">AATSR - ERS-2ATSR - ERS-1AVHRR - NOAA POESAVHRR/3 - MetOpGOES Imager - GOESPOLDER 1-2 - ADEOS 1-2SEVIRI - Meteosat Second GenerationVegetation - SPOT 4-5VIIRS - TRMMWIFS - IRS-1C-1D
Spatial Resolution 10m - 1km
Spatial Resolution Less Than 10m
Microwave Sensors
Planned Sensors

Vegetation (Vegetation)

Mission Lifetime / Length of Archive: 1998 - Present

Spatial Coverage: Global

Spatial Resolution: 1km

Temporal Resolution: 26 Days

Spectral Resolution: 0.50-1.75

Overpass Time: 10:30am

Mission Website: [SPOT 4-5](#)

Agency: CNES

Sensor Products
Vegetation Indices (2)
GPP / NPP (3)
LAI / fPAR (2)
Surface Reflectance (2)
Land Cover (1)
Vegetation Continuous Field (1)
Fire Disturbance (1)

Similar Sensors
AVHRR - NOAA POES
VRS - TRMM
POLDER 1-2 - ADEOS 1-2
Vegetation - SPOT 4-5
WIFS - IRS-1C-1D
SEVIRI - Meteosat Second Generation
ATSR - ERS-1
AATSR - ERS-2
GOES Imager - GOES
AVHRR/3 - MetOp

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