EOS Validation Data Flow

November 17, 1999

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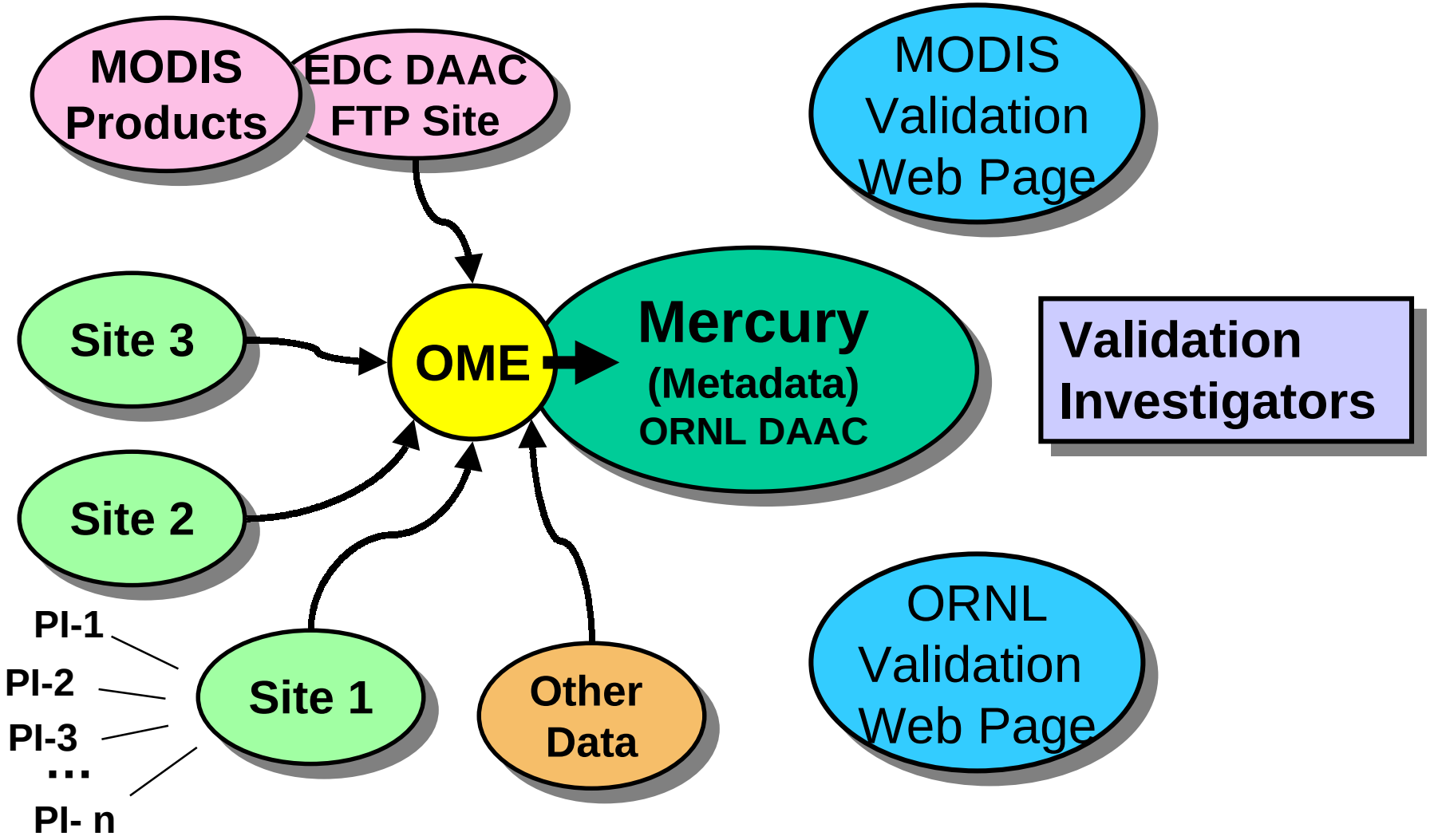
http:www-eosdis.ornl.gov

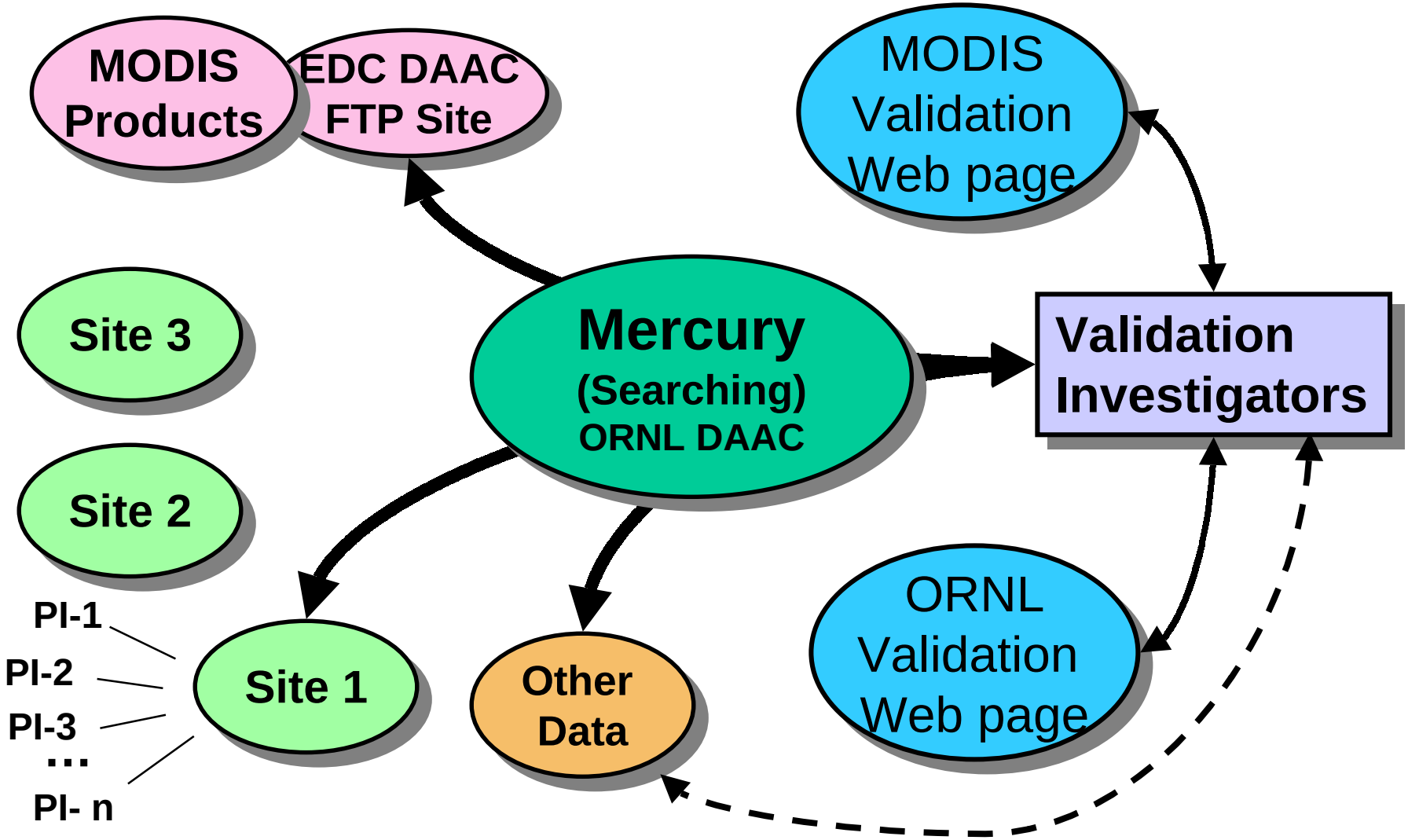
Elements of Distributed System

- Terra Products - MODIS at EDC DAAC
- Field Data
  - 24 core validation sites
  - many investigators collecting data at sites
  - other data sources (MQUALS, AERONET)
- Mercury System - ORNL DAAC
  - Web-based, distributed data search and delivery
- EOS Land Validation Web page
- Validation Investigators
  - comparison of products and field data

Data Flow: Loading Metadata



Data Flow: Retrieving Data



EOS Land Validation Data - Netscape

File Edit View Go Window Help

Earth Observing System Land Validation Data

Objective: To coordinate the data activities of EOS AM land validation investigators to achieve consistency, completeness, and timely flow of data among investigators and to a data archive to support the EOS Validation Program.

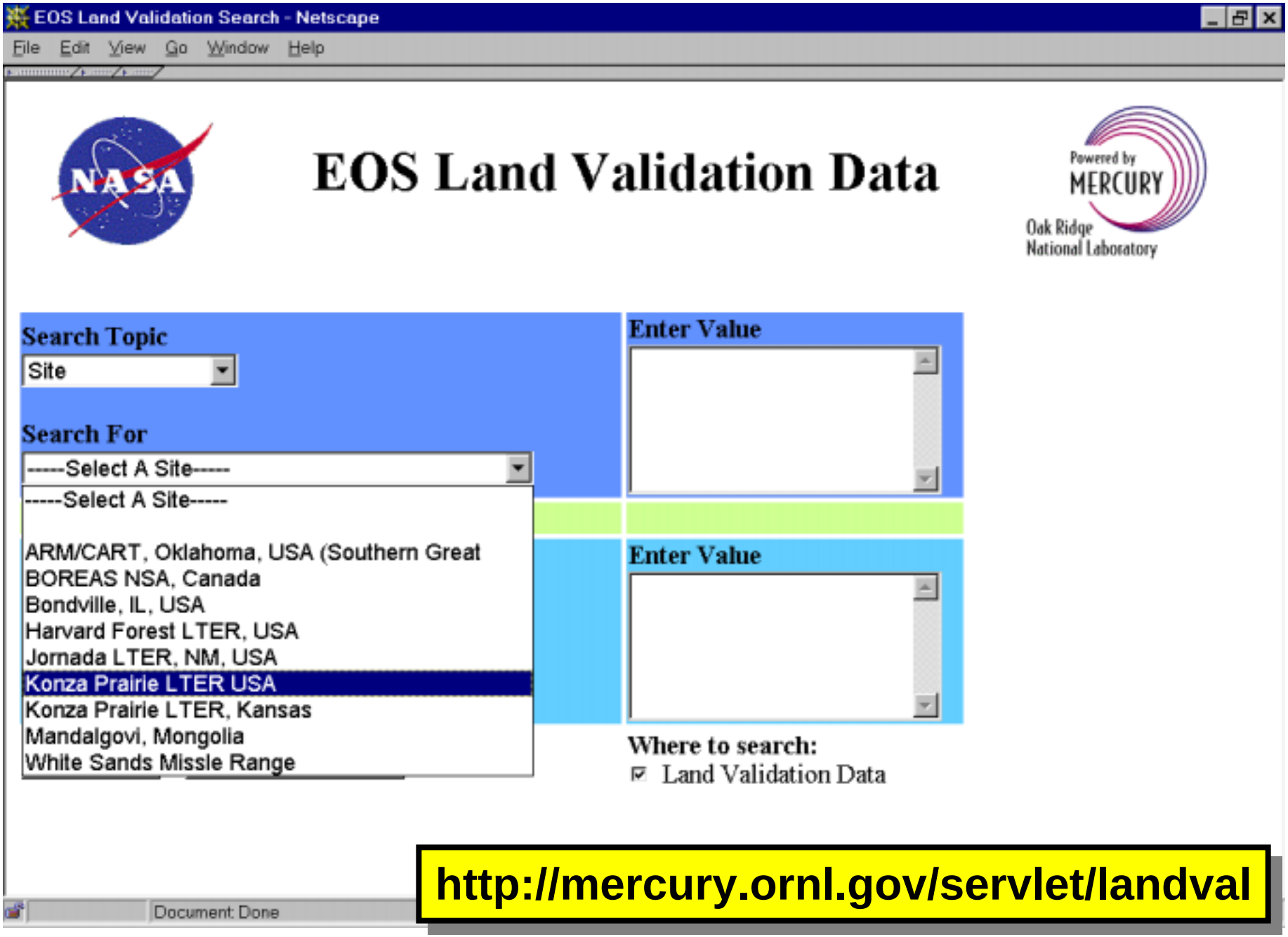
Background
- Sponsors, Objectives, Tasks, etc.
- Data Management Strategy
- Acronyms
- Reports

Data
- Validation Data Via Mercury
- ORNL Metadata Editor
- What is Mercury?
- Guidance for Investigators
- Archival Policy

Test Sites
- List of Sites
- Map of Sites
- Locations/Veg Types
- Site Characteristics
- Annual Parameters

Instrument Teams
- MODIS
- ASTER
- MISR
- LANDSAT 7

http://www-eosdis.ornl.gov/eos_land_val/valid.html



http://mercury.ornl.gov/servlet/landval

EOS Land Validation Status - Netscape

File Edit View Go Window Help

EOS Land Validation Data

Powered by MERCURY
Oak Ridge National Laboratory

Database	Status: *0 Minutes 0 Seconds*	# Results
Land Validation Data	Search Successful	12

View records

Document: Done

EOS Land Validation Brief - Netscape

File Edit View Go Window Help

Data Set Title: Go to: Agricultural Digital Camara on MQUALS transects, 11 July 1999

Abstract: Attempting to characterize 1 square km along MQUALS transects 2 and 3. The two transect flank the flux tower at the site and are within BigFoot's intensive field plots. File name is: "t#pt#X.bmp"; where t# is for transect number, pt# for point number, and X is up, for pointed up with the calibration defuser over the lense, d for pointed down over 1m square (often the square is actually missed and you can see the edge of the PVC pipe used to mark the square), n for facing North with the camera about half way into the grass canopy, s for facing South with the camera about half way into the grass canopy. These are MSWindows BMP files. GPS for the points should be available through the Mercury system under either: University of Arizona, Karim Batchily batchily@Ag.Arizona.Edu and/or USGS, Dave Meyer meyer@edcsns1.cr.usgs.gov. These ADC picture were taken simultaniously with University of Arizona's digital and film cameras. (UA contact: Karim Batchily, batchily@Ag.Arizona.Edu) File registered in Mercury, 9 August 1999. Modified, 11 August 1999.

View full metadata for this data...

Data Set Title: Go to: ASD Spectrometer readings along MQUALS transects, 15 July 1999

Abstract: ASD spectrum for several points. Collected during the July 1999 "KonVEx" campaign.
There is a four line header of metadate in each file followed by the actual data, which is 2150 rows with: wavelength (nanometers), average reflectance from multple readings, and standard deviations from the multiple readings. Metadate contains the number of reading used to produce the average, the date, and the location label (including ground cover type and lat./lon.).

View full metadata for this data...

Data Set Title: Go to: Measured Optical depths for a Golden Day in support of KonVEx

Document: Done

EOS Land Validation Detail - Netscape

File Edit View Go Window Help

Record Detail

Oak Ridge National Laboratory

Title: Go to: ASD Spectrometer readings along MQUALS transects, 15 July 1999

Project: EOS Land Validation: Konza Validation Experiment (KonVEx)

Site: Konza Prairie LTER USA

Investigator(s): Morisette, Dr. Jeffrey T. Email: jeff.morisette@gsfc.nasa.gov
Steyaert, Lou Email: steyaert@ltpmail.gsfc.nasa.gov

Status: Preliminary

Access Restrictions: Public

Data Set Location: NASA's Goddard Space Flight Center

Data Center Contact:

Data Center URL: http://modarch.gsfc.nasa.gov/MODIS/LAND/VAL/konza.html

Data Set Citation: Steyaer, L, and Morisette, Jeffrey T. andt, 1999, ASD Spectrometer readings along MQUALS transects, 15 July 1999, Konza Prairie Validation Experiment.

Download Dataset(s): KONVEX ASD, 15 July 1999

Publication Date:

Parameter Description:

Parameter	Sensor	Source	Term	Topic
GRASSLAND	ASD Spectrometer	FIELD SURVEYS	VEGETATION	MODIS Land Validation

Keyword(s):
EOS Validation
EOS Land Validation Core Sites
Core Sites
Konza Prairie
KonVEx
ADC
Agricultural Digital Camera
Dycam Agricultural Digital Camera

Document: Done

Directory of /pub/incoming/konvex/asd - Netscape

File Edit View Go Window Help

Current directory is /pub/incoming/konvex/asd

Up to higher level directory

east01 clip 19990715 1524.txt	84 Kb	Wed Oct 27 17:18:00 1999	Plain Text
east01 gras 19990715 1524.txt	84 Kb	Wed Oct 27 17:18:00 1999	Plain Text
east03 clip 19990715 1448.txt	84 Kb	Wed Oct 27 17:19:00 1999	Plain Text
east03 gras 19990715 1448.txt	84 Kb	Wed Oct 27 17:19:00 1999	Plain Text
west01 clip 19990715 1541.txt	84 Kb	Wed Oct 27 17:19:00 1999	Plain Text
west01 gras 19990715 1541.txt	84 Kb	Wed Oct 27 17:19:00 1999	Plain Text
west03 clip 19990715 1553.txt	84 Kb	Wed Oct 27 17:19:00 1999	Plain Text
west03 gras 19990715 1553.txt	84 Kb	Wed Oct 27 17:19:00 1999	Plain Text

Document: Done

Netscape

File Edit View Go Window Help

Listing of 2151 wavelengths averaged over 77 ASD readings.
From July 15, 1999
Location: grass area, lat.=39.08207903 lon.=96.56136559

wavelength(nanometers)	average	standard-deviation
348.091	0.0184023	0.00613305
349.092	0.0186790	0.00482479
350.093	0.0180327	0.00412262
351.095	0.0153790	0.00516973
352.096	0.0148166	0.00458599
353.097	0.0150728	0.00446102
354.098	0.0156886	0.00475318
355.099	0.0160255	0.00455592
356.101	0.0169966	0.00510325
357.102	0.0174322	0.00518954
358.103	0.0167682	0.00571785
359.104	0.0129356	0.00589836
360.106	0.0143519	0.00519194
361.107	0.0160555	0.00471915
362.108	0.0159949	0.00500721
363.109	0.0115613	0.00432052
364.111	0.0138959	0.00371923
365.112	0.0175380	0.00357906
366.113	0.0166678	0.00398601
367.114	0.0179748	0.00370718
368.116	0.0163246	0.00366101
369.117	0.0133142	0.00384927
370.118	0.0161942	0.00488308
371.119	0.0173905	0.00442811

Using the Mercury System and OME (ORNL Metadata Editor)

- Organize your data
- Put data on a local Web or FTP server
- Request user ID for OME
- Enter metadata with OME (links to data)
- Make data “Searchable”
- Metadata are harvested each night
- If needed, make data “UnSearchable” and update your data

Mercury Metadata Editor Login - Netscape

File Edit View Go Window Help

Mercury Metadata Editor

Bringing Scientific Data to Light

for the *Mercury* Search Engine

We appreciate your willingness to share project data.

Please use our Metadata Editor to describe your data holdings. If you are not ready to publicize your data, you can save the descriptions strictly for your own use. When you are ready, you can make them public. Our search engine will "see" your descriptions and allow other researchers to find out about your data through on-line searches.

Want to try out the Metadata Editor? You can type in 'guest' as the User ID.

You can save your files in a separate, personal area if you have your own User ID. To get a User ID, call (+1) 423-241-3952.

User ID: [ ] Login Undo

http://daacl.esd.ornl.gov/cgi-bin/MDE/MERCURY/access.pl

Document: Done

Registering for the ORNL Metadata Editor

- Email:
  - Name
  - Project - EOS Validation
  - Preferred login name, if any.
  - Email address
  - Phone number
- Send to: Cindy Myers <mye@ornl.gov>
- You will receive an email confirmation

- EDC_GLCTS_Konza.html - Netscape

File Edit View Go Window Help

```
Data_Originator:
 Investigator:
  Name: Dwyer, Jo
  Email: dwyer@ed
Data_Set_Informat
 Data_Set_Title:
 Project: EOS Lan
 Site_Information
  Site: Konza Pra
  Westernmost_Lon
  Easternmost_Lon
  Northernmost_La
  Southernmost_La
 Time_Period:
  Temporal_Covera
   Start_Date: 19
   End_Date: 1995
  Temporal_Resolu
    AVHRR, MSS, a
 Parameter_Descri
  Topic: LAND SUR

  Term: LAND USE/

  Parameter: LAND

  Sensor: TM(THEM

  Source: LANDSAT

 Parameter_Descri
  Topic: LAND SUR
  Term: LAND USE/
```

File | Metadata | Information | Make EDC_GLCTS_Konza.html Unsearchable

File
New
Open...
Close
Save
Save As...
Delete...

Exclude...

View

Smart Full

Pick list for Site

(*)=mandatory. (+)=expand. (-)=collapse.

angel_harvest/MERCURY/RO/EDC_GLCTS_Konza.html

ginator:(-)

stigator:(-)

Name*: (example: Jones, Dr. Robert W.)

Dwyer, John

Email*: dwyer@edcmail.cr.usgs.gov

add another Investigator

- **Data_Set_Information:(-)**
  - Data_Set_Title:

    Landcover, DEM, AVHRR, MSS and TM data for the Konza site
  - Project:

    EOS Land Validation: Global Land Cover Test Site Project
  - **Site_Information:(-)**
    - Site: (see pick list at top)

      Konza Prairie LTER USA
    - Westernmost_Longitude: (decimal fractions of degrees, + = E, - = W)

      Enter -96.62 (+ = E, - = W)
    - Easternmost_Longitude: (decimal fractions of degrees, + = E, - = W)

      Enter -96.62 (+ = E, - = W)
    - Northernmost_Latitude: (decimal fractions of degrees, + = N, - = S)

      Enter 39.08 (+ = N, - = S)
    - Southernmost_Latitude: (decimal fractions of degrees, + = N, - = S)

Document: Done

EDC_GLCTS_Konza.html - Netscape

File Edit View Go Window Help

Data_Originator:
Investigator:
Name: Dwyer, Jo
Email: dwyer@ed
Data_Set_Informat
Data_Set_Title:
Project: EOS Lan
Site_Information
Site: Konza Pra
Westernmost_Lon
Easternmost_Lon
Northernmost_La
Southernmost_La
Time_Period:
Temporal_Covera
Start_Date: 19
End_Date: 1995
Temporal_Resolu
AVHRR, MSS, a
Parameter_Descri
Topic: LAND SUR
Term: LAND USE/
Parameter: LAND
Sensor: TM(THEM
Source: LANDSAT
Parameter_Descri
Topic: LAND SUR
Term: LAND USE/

File | Metadata | Information | Make EDC_GLCTS_Konza.html Unsearchable

Smart Full

Pick list for Site

Pick list for Site
ARM/CART, Oklahoma, USA (Southern Great Plains)
BOREAS NSA, Canada
BOREAS SSA, Canada
Barton Bendish, East Anglia, UK
Bondville, IL, USA
Cascades: OR, USA
Harvard Forest LTER, USA
Howland, ME, USA
Ji-Parana, Brazil
Jornada LTER, NM, USA
Konza Prairie LTER USA
Krasnoyarsk, Russia
Mandalgovi, Mongolia
Maricopa Ag. Cnt., AZ, USA
Mongu, Zambia
SALSA, San Pedro, AZ/Mexico, USA
Sevilleta LTER, NM, USA
Skukuza, Kruger NP, RSA
Tapajos, Brazil

From: /data/bluangel_harv

+)=expand. (-)=collapse.

- Data_Originator (-)
  - Investigator (-
    - Name*: (e
      Dwyer, John
    - Email*: dw
    - add anothe
- Data_Set_Informatio
  - Data_Set_Title:
    Landcover, DEM, A
  - Project:
    EOS Land Validati
  - Site_Informatio
    - Site: (see
      Konza Prairie LTER USA
    - Westernmost_Longitude: (decimal fractions of degrees, + = E, - = W)
      Enter -96.62 (+ = E, - = W)
    - Easternmost_Longitude: (decimal fractions of degrees, + = E, - = W)
      Enter -96.62 (+ = E, - = W)
    - Northernmost_Latitude: (decimal fractions of degrees, + = N, - = S)
      Enter 39.08 (+ = N, - = S)
    - Southernmost_Latitude: (decimal fractions of degrees, + = N, - = S)

Document: Done

EDC_GLCTS_Konza.html - Netscape

File Edit View Go Window Help

```
Data_Originator:
 Investigator:
  Name: Dwyer, Jo
  Email: dwyer@ed
Data_Set_Informat
 Data_Set_Title:
 Project: EOS Lan
 Site_Information
  Site: Konza Pra
  Westernmost_Lon
  Easternmost_Lon
  Northernmost_La
  Southernmost_La
 Time_Period:
  Temporal_Covera
   Start_Date: 19
   End_Date: 1995
  Temporal_Resolu
    AVHRR, MSS, a
 Parameter_Descri
  Topic: LAND SUR
  Term: LAND USE/
  Parameter: LAND
  Sensor: TM(THEM

  Source: LANDSAT

 Parameter_Descri
  Topic: LAND SUR
  Term: LAND USE/
  Parameter: LAND
  Sensor: AVHRR(A
  Source: NOAA-9(
```

File | Metadata | Information | Make EDC_GLCTS_Konza.html Unsearchable

Smart Full

Pick list for Parameter

- Pick list for Parameter
- LAND CLASSES
- LAND COVER
- LAND MANAGEMENT
- LAND PRODUCTIVITY
- LAND RESOURCES
- LAND TENURE
- WATERSHED CHARACTERISTICS

- **Parameter_Description**
  - Topic: (see pick lis
    - LAND SURFACE
  - Term: (see pick list
    - LAND USE/LAND CO
  - Parameter*: (see pick list at top)
    - LAND COVER
  - Sensor: (see pick list at top) (i.e, sensor or instrument)
    - TM(THEMATIC MAPPER)
  - Source: (see pick list at top) (i.e, source or platform)
    - LANDSAT
- **Parameter_Description (-)**
  - Topic: (see pick list at top)
    - LAND SURFACE
  - Term: (see pick list at top)
    - LAND USE/LAND COVER
  - Parameter*: (see pick list at top)
    - LAND COVER
  - Sensor: (see pick list at top) (i.e, sensor or instrument)
    - AVHRR(ADVANCED VERY HIGH RESOLUTION RADIOMETER)
  - Source: (see pick list at top) (i.e, source or platform)
    - NOAA-9(NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION-9)

Document: Done

EDC_GLCTS_Konza.html - Netscape

File Edit View Go Window Help

```
Data_Originator:
 Investigator:
  Name: Dwyer, Jo
  Email: dwyer@ed
Data_Set_Informat
 Data_Set_Title:
 Project: EOS Lan
 Site_Information
  Site: Konza Pra
  Westernmost_Lon
  Easternmost_Lon
  Northernmost_La
  Southernmost_La
 Time_Period:
  Temporal_Covera
   Start_Date: 19
   End_Date: 1995
  Temporal_Resolu
    AVHRR, MSS, a
 Parameter_Descri
  Topic: LAND SUR
  Term: LAND USE/
  Parameter: LAND
  Sensor: TM(THEM

  Source: LANDSAT

 Parameter_Descri
  Topic: LAND SUR
  Term: LAND USE/
  Parameter: LAND
  Sensor: AVHRR(A
  Source: NOAA-9(
```

File | Metadata | Information | Make EDC_GLCTS_Konza.html Unsearchable

Smart Full

Pick list for Parameter

- **Data_Access_Information** (-)
  - Data_Set_Status*: (see pick list at top)
    - Final
  - Data_Set_Restrictions*: (see pick list at top)
    - Restricted to investigator team
  - Data_Set_Location:
    - EDC DAAC
  - **Data_Contact_Person** (-)
    - Name*: (example: Jones, Dr. Robert W.)
      - Dwyer, John
    - Email*: dwyer@edcmail.cr.usgs.gov
    - Phone*: (605) 594-6060
  - Data_Center_URL:
    - http://edcwww.cr.usgs.gov/landdaac/landdaac.html
  - Data_Set_Citation:
    - Global Land Cover Test Site Project (currently inactive)
  - **Data_Set_Link** (-)
    - URL*:
      - ftp://edcsgs16.cr.usgs.gov/orders/eosval/
    - Label*:
      - For access contact: Jeff Morisette jeff.morisette@gsfc.nasa.gov

add another Data_Set_Link

javascript:top.newWindow('glossary.html#url')

Data Concerns

- Validation data may not be available from investigators as soon as needed
- Different formats, file organization, units of measure for each site/investigator
  - should small field-data files be HDF?
- Comparison of MODIS products to field measurements may not be performed in a routine and consistent manner at each site

Validation Scientists Registered with the ORNL Metadata Editor

Anderberg, Mary
Augustine, John
Baldocchi, Dennis
Batchily , Karim
Bruegge, Carol
Burrows , Sean
Cahoon, Don
Conel, Jim
Dutton, Ellsworth
Falkenberg, Charles
Ferreira, Laerte
Gower, Stith
Hao, Wei-Min
Helmlinger, Mark
Henry, Patrice
Hodges , John
Hom , Milton
Hook, Simon
Huete , Alfredo
Keita , Fricky
Kelly, Z
Kramer, Ed
Liang, Shunlin
Meyer, David
Morisette, Jeff
Myers, Daryl
Myneni , Ranga
Nagler , Pamela
Pinker, Rachel
Privette, Jeff
Robbins, Cullen
Schaaf , Crystal
Schowengerdt, Robert
Starr, David OC
Steyaert , Lou
Strahler , Alan
Strugnell , Nick
Suttles, Tim
Teillet, Philip
Thome, Kurt
Thornton, Polly
Tian, Yuhong
Wang, Jinxue
Ward, Darold
Wood, Eric
Wylie , Bruce
Yoshioka, Heroki
Zhang, Yu