Long Term Ecological Research
Network Office

LNO NIS Status Report
10 October 2008

Mark Servilla

Topics

- Data Catalog/Metacat Status
- Active projects
  - EcoTrends Web Portal
  - CREATE Metadata
  - HydroDB/ClimDB Migration
  - Information Management Support
  - Subversion
  - Bugzilla
  - Data Access Server
- Horizon project(s)
  - Web Services for LNO Databases
  - Refactoring LTER Data Catalog

LTER

LTER Data Catalog/Metacat Status

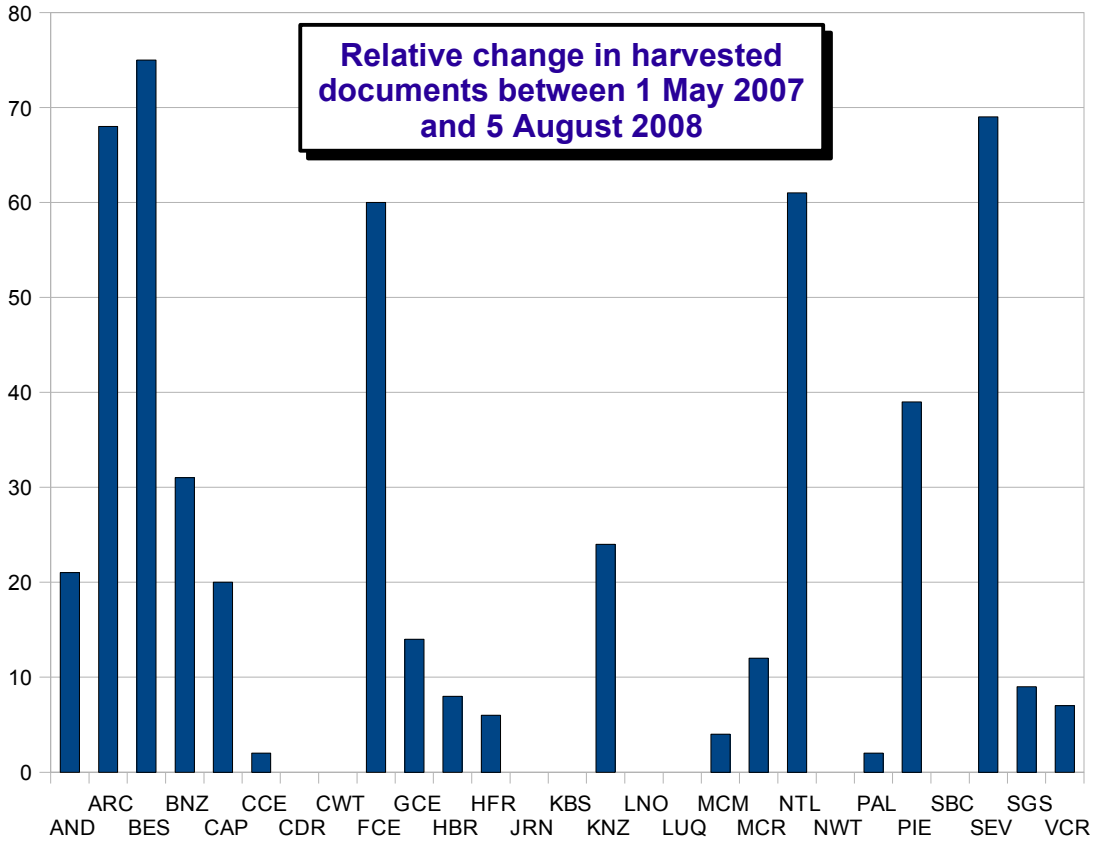
- Metacat News
  - Upgraded to version 1.8.0 April 2008
    - Performance improvements, including restructured SQL and query caching
    - New skin layout, including LTER
    - New simplified URL syntax for accessing single documents
  - Upgraded to version 1.8.1 June 2008
    - Bug fixes (critical)
  - Added Google Maps to Advanced Search (plus other minor refinements)
- Metacat Statistics
  - Total document 26,883 (down from 28,695; NCEAS purged test documents)
  - EML and related 17,720 (14,616 pure EML; 6,378 from LTER)
  - Binary and other 9,163

LTER

LTER Data Catalog/Metacat Status

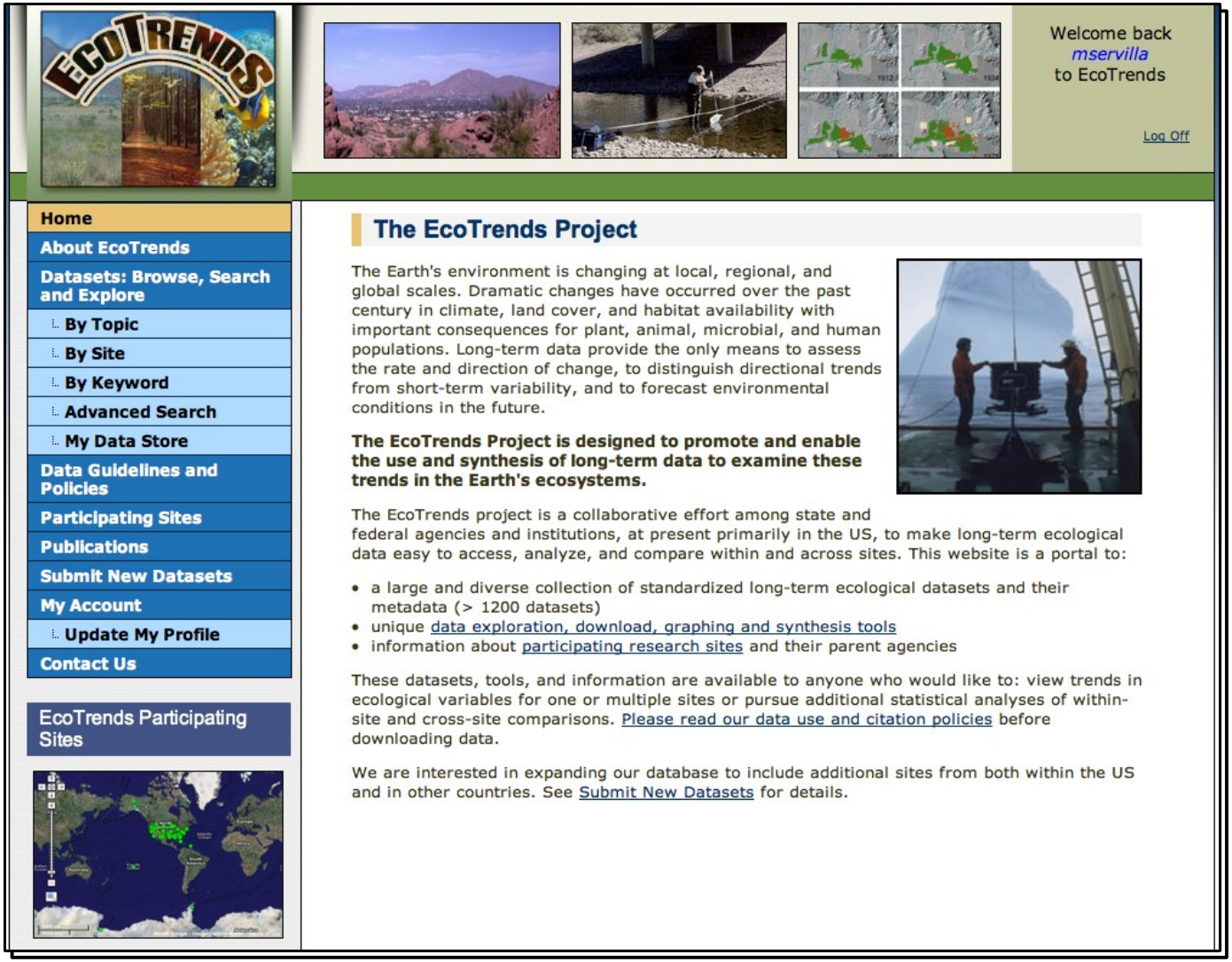
- Harvest Statistics

Site	08/05/08
AND	162
ARC	1671
BES	189
BNZ	258
CAP	182
CCE	2
CDR	753
CWT	234
FCE	343
GCE	306
HBR	123
HFR	105
JRN	51
KBS	42
KNZ	73
LNO	475
LUQ	96
MCM	181
MCR	24
NTL	166
NWT	145
PAL	2
PIE	157
SBC	24
SEV	171
SGS	18
VCR	118
Total	*6071*



LNO NIS

EcoTrends Web Portal

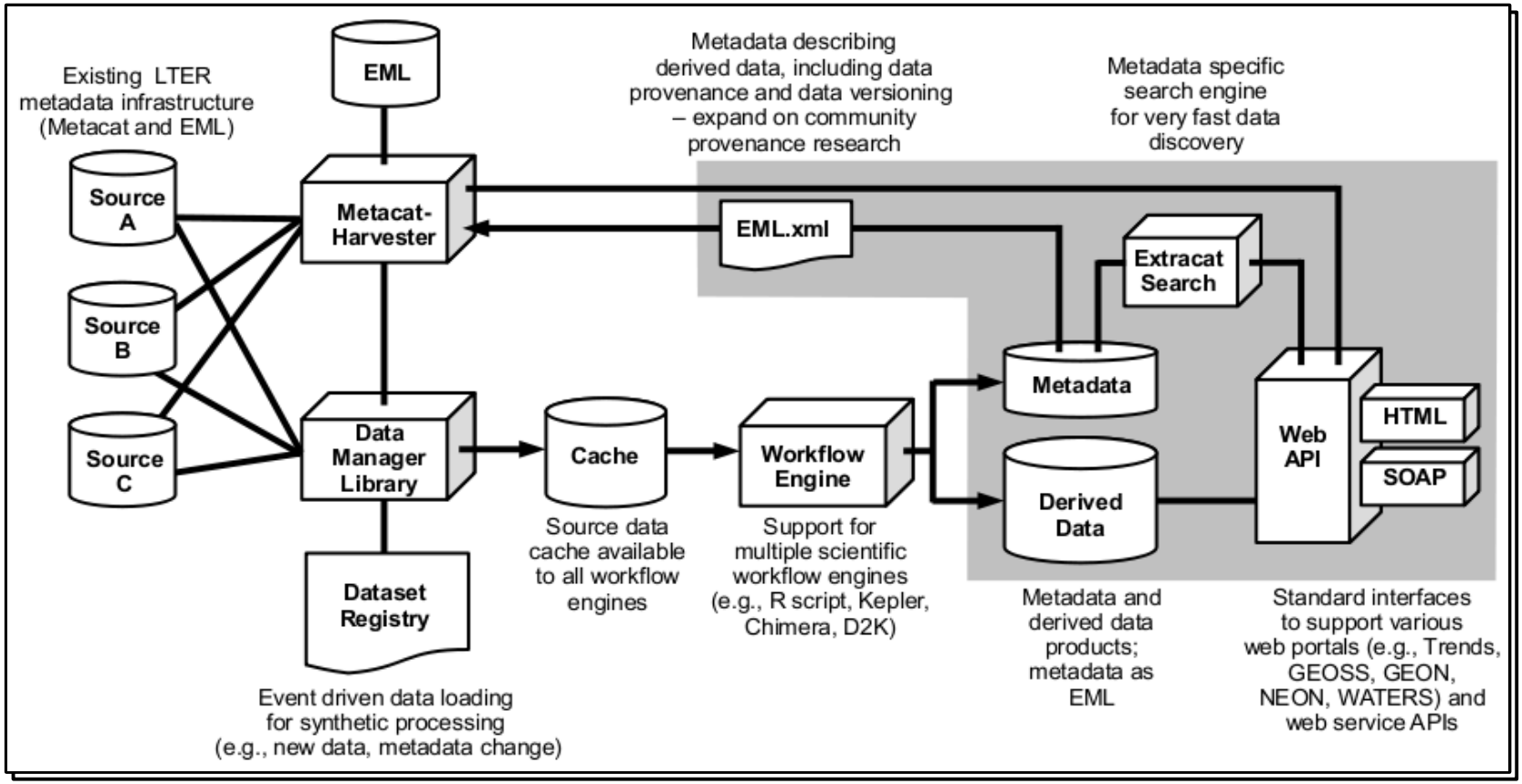


EcoTrends Web Portal

- Current Status
  - Transition to production release 1.0 Aug/Sep 2008
  - 23,782 current data sets
  - High-performance search using “Extracat” (non-Metacat) indexing scheme
- Major Components
  - Metacat 1.8.1
  - PostgreSQL 8.3
  - Apache Tomcat 5.5 / Java 1.5 (JSP, Servlets)
  - JFreeChart plots (http://www.jfree.org/jfreechart/)
  - Google Maps
  - PERL-based EML generation and data harvesting

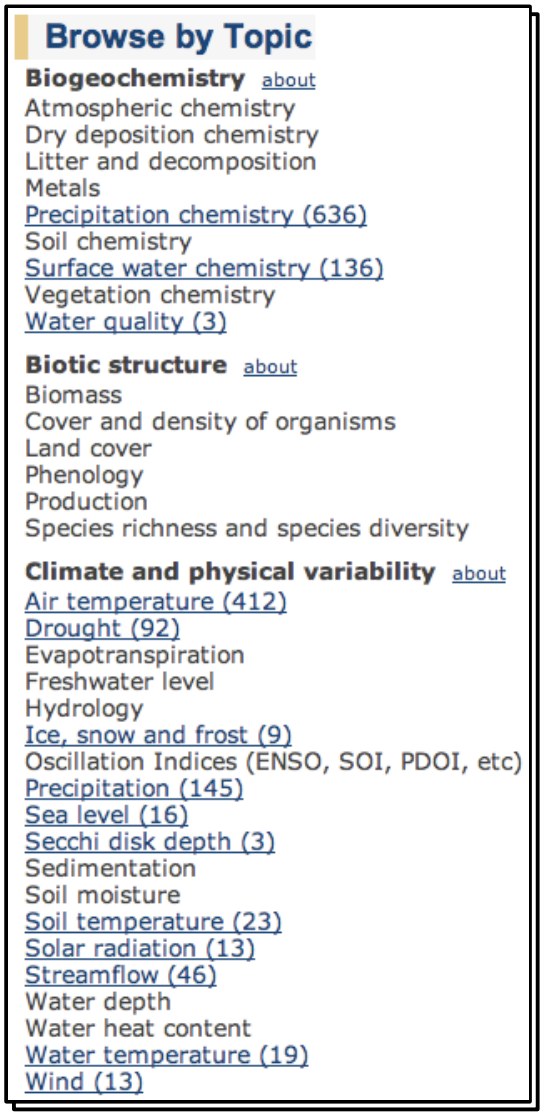
EcoTrends Web Portal

New technology



EcoTrends Web Portal

- Features
  - Browse by category
  - Browse by site

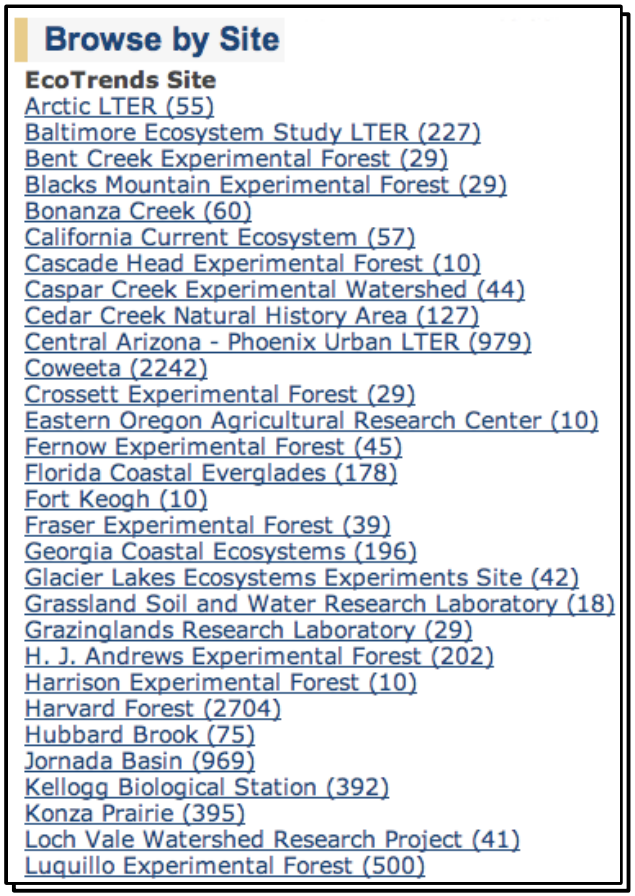


Browse by Topic

Biogeochemistry about
Atmospheric chemistry
Dry deposition chemistry
Litter and decomposition
Metals
Precipitation chemistry (636)
Soil chemistry
Surface water chemistry (136)
Vegetation chemistry
Water quality (3)

Biotic structure about
Biomass
Cover and density of organisms
Land cover
Phenology
Production
Species richness and species diversity

Climate and physical variability about
Air temperature (412)
Drought (92)
Evapotranspiration
Freshwater level
Hydrology
Ice, snow and frost (9)
Oscillation Indices (ENSO, SOI, PDOI, etc)
Precipitation (145)
Sea level (16)
Secchi disk depth (3)
Sedimentation
Soil moisture
Soil temperature (23)
Solar radiation (13)
Streamflow (46)
Water depth
Water heat content
Water temperature (19)
Wind (13)



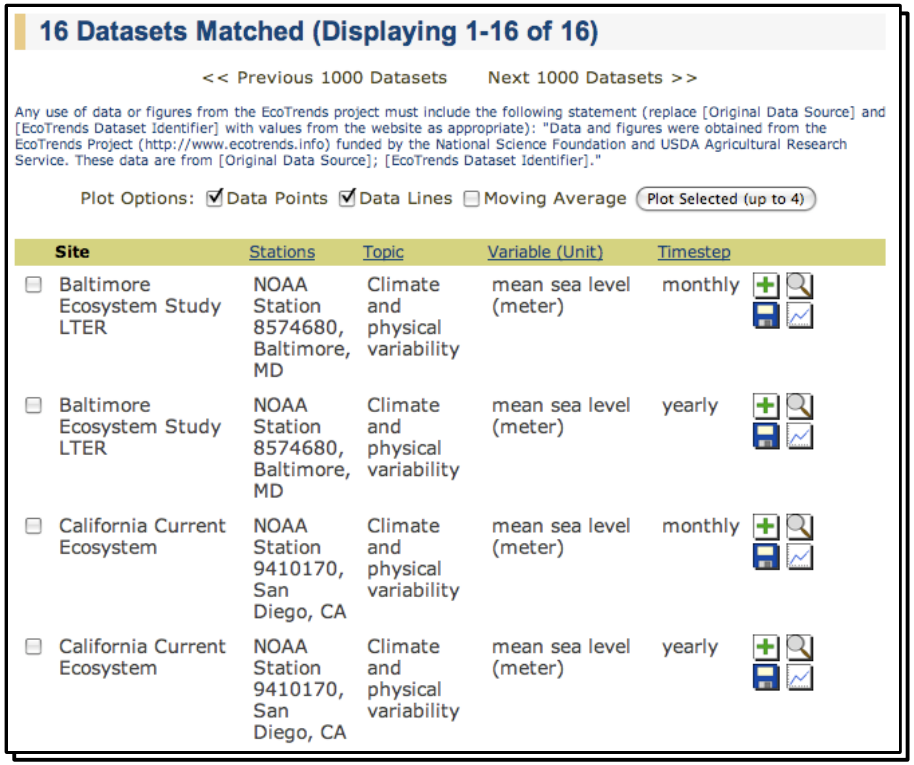
Browse by Site

EcoTrends Site
Arctic LTER (55)
Baltimore Ecosystem Study LTER (227)
Bent Creek Experimental Forest (29)
Blacks Mountain Experimental Forest (29)
Bonanza Creek (60)
California Current Ecosystem (57)
Cascade Head Experimental Forest (10)
Caspar Creek Experimental Watershed (44)
Cedar Creek Natural History Area (127)
Central Arizona - Phoenix Urban LTER (979)
Coweeta (2242)
Crossett Experimental Forest (29)
Eastern Oregon Agricultural Research Center (10)
Fernow Experimental Forest (45)
Florida Coastal Everglades (178)
Fort Keogh (10)
Fraser Experimental Forest (39)
Georgia Coastal Ecosystems (196)
Glacier Lakes Ecosystems Experiments Site (42)
Grassland Soil and Water Research Laboratory (18)
Grazinglands Research Laboratory (29)
H. J. Andrews Experimental Forest (202)
Harrison Experimental Forest (10)
Harvard Forest (2704)
Hubbard Brook (75)
Jornada Basin (969)
Kellogg Biological Station (392)
Konza Prairie (395)
Loch Vale Watershed Research Project (41)
Luquillo Experimental Forest (500)

LTER

EcoTrends Web Portal

- Features
  - Multiple levels of metadata



16 Datasets Matched (Displaying 1-16 of 16)

<< Previous 1000 Datasets Next 1000 Datasets >>

Any use of data or figures from the EcoTrends project must include the following statement (replace [Original Data Source] and [EcoTrends Dataset Identifier] with values from the website as appropriate): "Data and figures were obtained from the EcoTrends Project (http://www.ecotrends.info) funded by the National Science Foundation and USDA Agricultural Research Service. These data are from [Original Data Source]; [EcoTrends Dataset Identifier]."

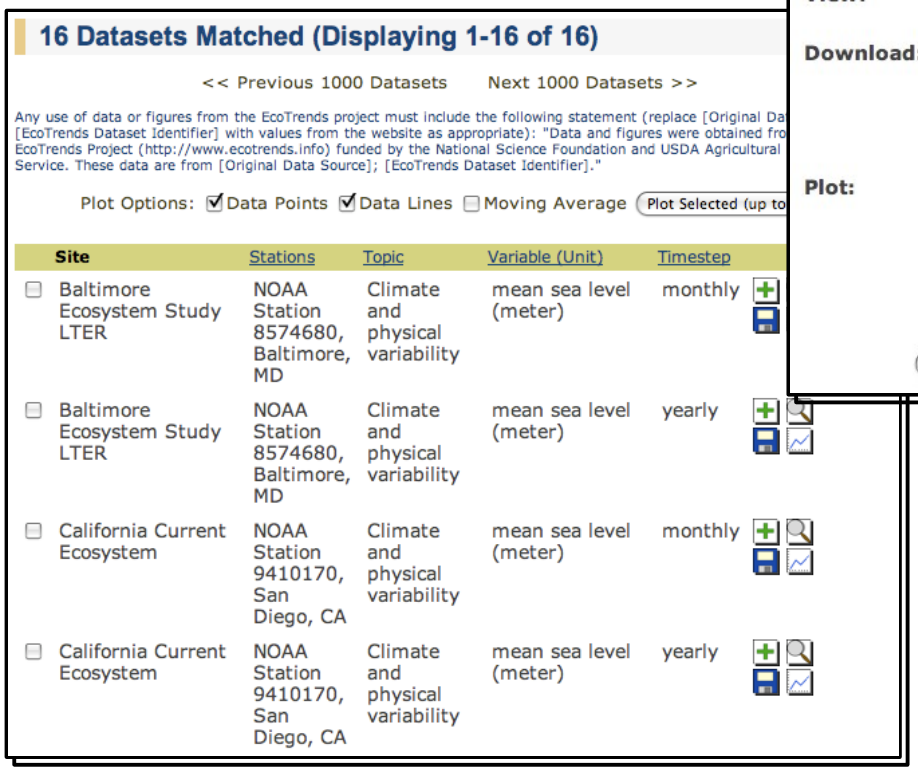
Plot Options: ☑ Data Points ☑ Data Lines ☐ Moving Average Plot Selected (up to 4)

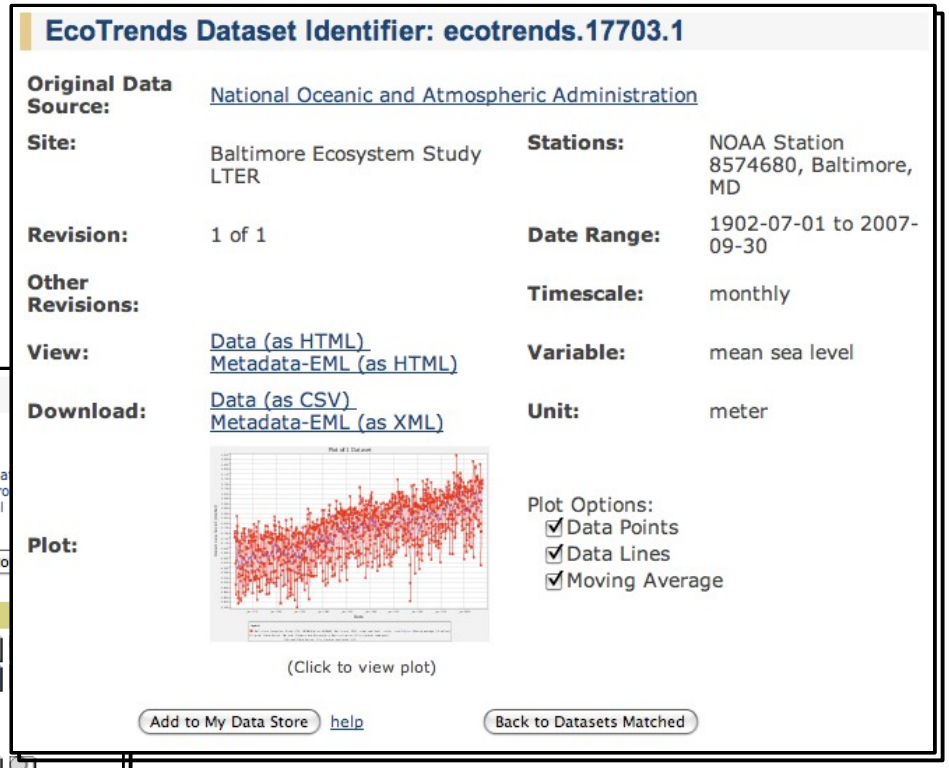
Site	Stations	Topic	Variable (Unit)	Timestep
Baltimore Ecosystem Study LTER	NOAA Station 8574680, Baltimore, MD	Climate and physical variability	mean sea level (meter)	monthly
Baltimore Ecosystem Study LTER	NOAA Station 8574680, Baltimore, MD	Climate and physical variability	mean sea level (meter)	yearly
California Current Ecosystem	NOAA Station 9410170, San Diego, CA	Climate and physical variability	mean sea level (meter)	monthly
California Current Ecosystem	NOAA Station 9410170, San Diego, CA	Climate and physical variability	mean sea level (meter)	yearly

LTER

EcoTrends Web Portal

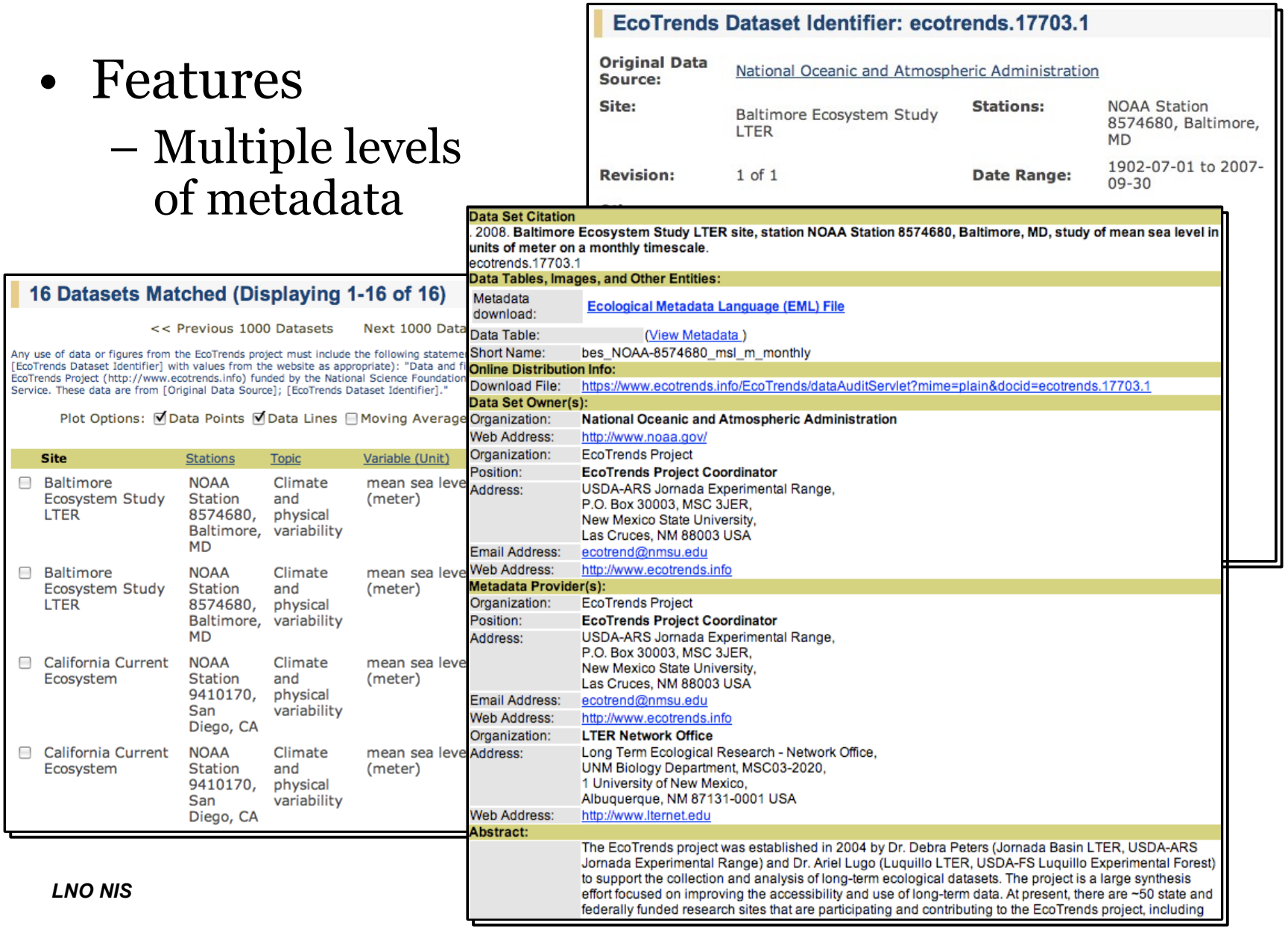
- Features
  - Multiple levels of metadata





EcoTrends Web Portal

- Features
  - Multiple levels of metadata



16 Datasets Matched (Displaying 1-16 of 16)

<< Previous 1000 Datasets Next 1000 Data

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Plot Options: ☑ Data Points ☑ Data Lines ☐ Moving Average

Site	Stations	Topic	Variable (Unit)
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Baltimore Ecosystem Study LTER	NOAA Station 8574680, Baltimore, MD	Climate and physical variability	mean sea leve (meter)
California Current Ecosystem	NOAA Station 9410170, San Diego, CA	Climate and physical variability	mean sea leve (meter)
California Current Ecosystem	NOAA Station 9410170, San Diego, CA	Climate and physical variability	mean sea leve (meter)

EcoTrends Dataset Identifier: ecotrends.17703.1

Original Data Source:	National Oceanic and Atmospheric Administration		
Site:	Baltimore Ecosystem Study LTER	**Stations:**	NOAA Station 8574680, Baltimore, MD
Revision:	1 of 1	**Date Range:**	1902-07-01 to 2007-09-30

Data Set Citation

. 2008. **Baltimore Ecosystem Study LTER site, station NOAA Station 8574680, Baltimore, MD, study of mean sea level in units of meter on a monthly timescale.**
ecotrends.17703.1

Data Tables, Images, and Other Entities:

Metadata download:	Ecological Metadata Language (EML) File
Data Table:	(View Metadata)
Short Name:	bes_NOAA-8574680_msl_m_monthly

Online Distribution Info:

Download File:	https://www.ecotrends.info/EcoTrends/dataAuditServlet?mime=plain&docid=ecotrends.17703.1

Data Set Owner(s):

Organization:	**National Oceanic and Atmospheric Administration**
Web Address:	http://www.noaa.gov/
Organization:	EcoTrends Project
Position:	**EcoTrends Project Coordinator**
Address:	USDA-ARS Jornada Experimental Range, P.O. Box 30003, MSC 3JER, New Mexico State University, Las Cruces, NM 88003 USA
Email Address:	ecotrend@nmsu.edu
Web Address:	http://www.ecotrends.info

Metadata Provider(s):

Organization:	EcoTrends Project
Position:	**EcoTrends Project Coordinator**
Address:	USDA-ARS Jornada Experimental Range, P.O. Box 30003, MSC 3JER, New Mexico State University, Las Cruces, NM 88003 USA
Email Address:	ecotrend@nmsu.edu
Web Address:	http://www.ecotrends.info
Organization:	**LTER Network Office**
Address:	Long Term Ecological Research - Network Office, UNM Biology Department, MSC03-2020, 1 University of New Mexico, Albuquerque, NM 87131-0001 USA
Web Address:	http://www.lternet.edu

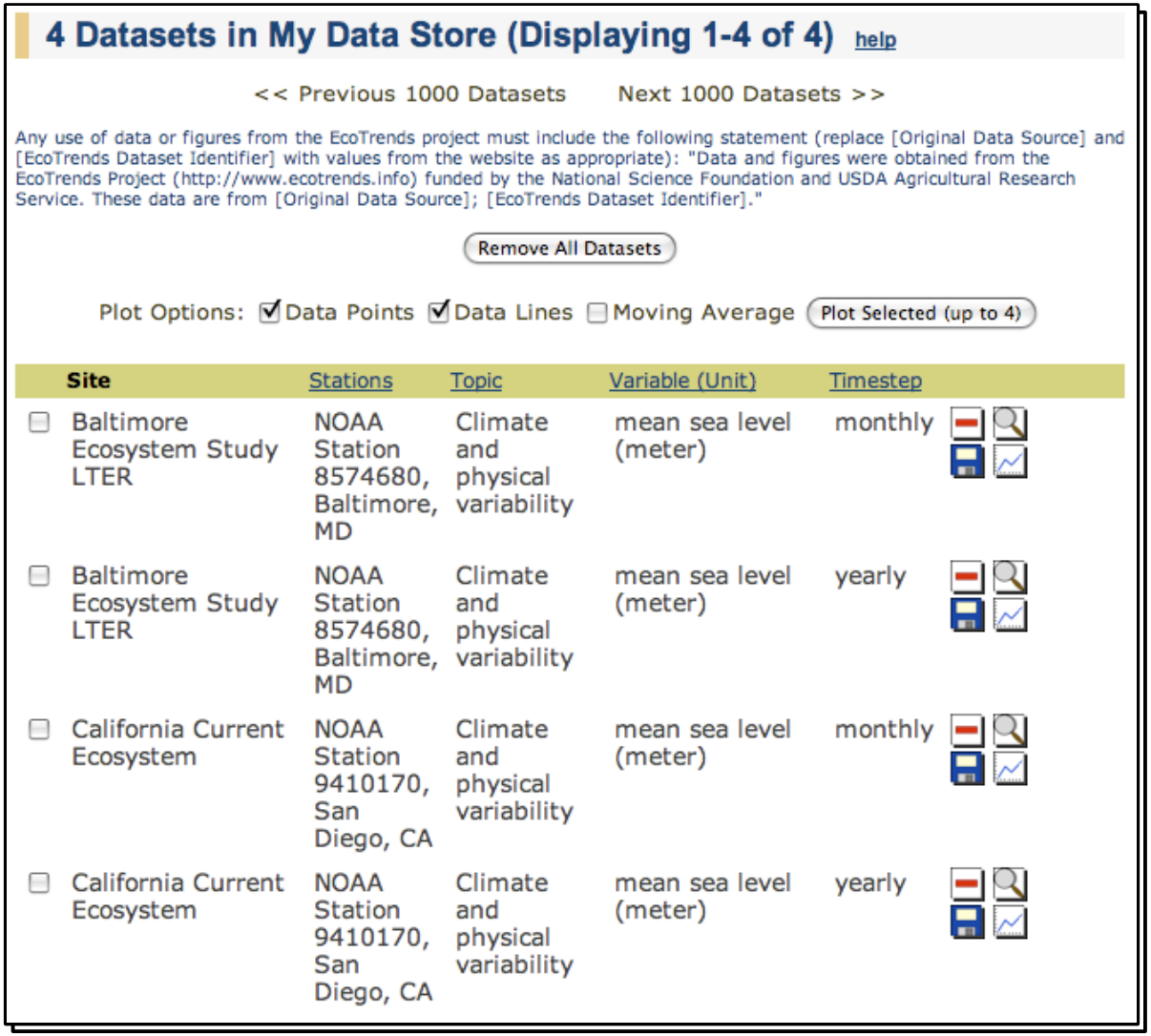
Abstract:

The EcoTrends project was established in 2004 by Dr. Debra Peters (Jornada Basin LTER, USDA-ARS Jornada Experimental Range) and Dr. Ariel Lugo (Luquillo LTER, USDA-FS Luquillo Experimental Forest) to support the collection and analysis of long-term ecological datasets. The project is a large synthesis effort focused on improving the accessibility and use of long-term data. At present, there are ~50 state and federally funded research sites that are participating and contributing to the EcoTrends project, including

LTER

EcoTrends Web Portal

- Features
  - My Data Store



4 Datasets in My Data Store (Displaying 1-4 of 4) help

<< Previous 1000 Datasets Next 1000 Datasets >>

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Remove All Datasets

Plot Options: ☑ Data Points ☑ Data Lines ☐ Moving Average Plot Selected (up to 4)

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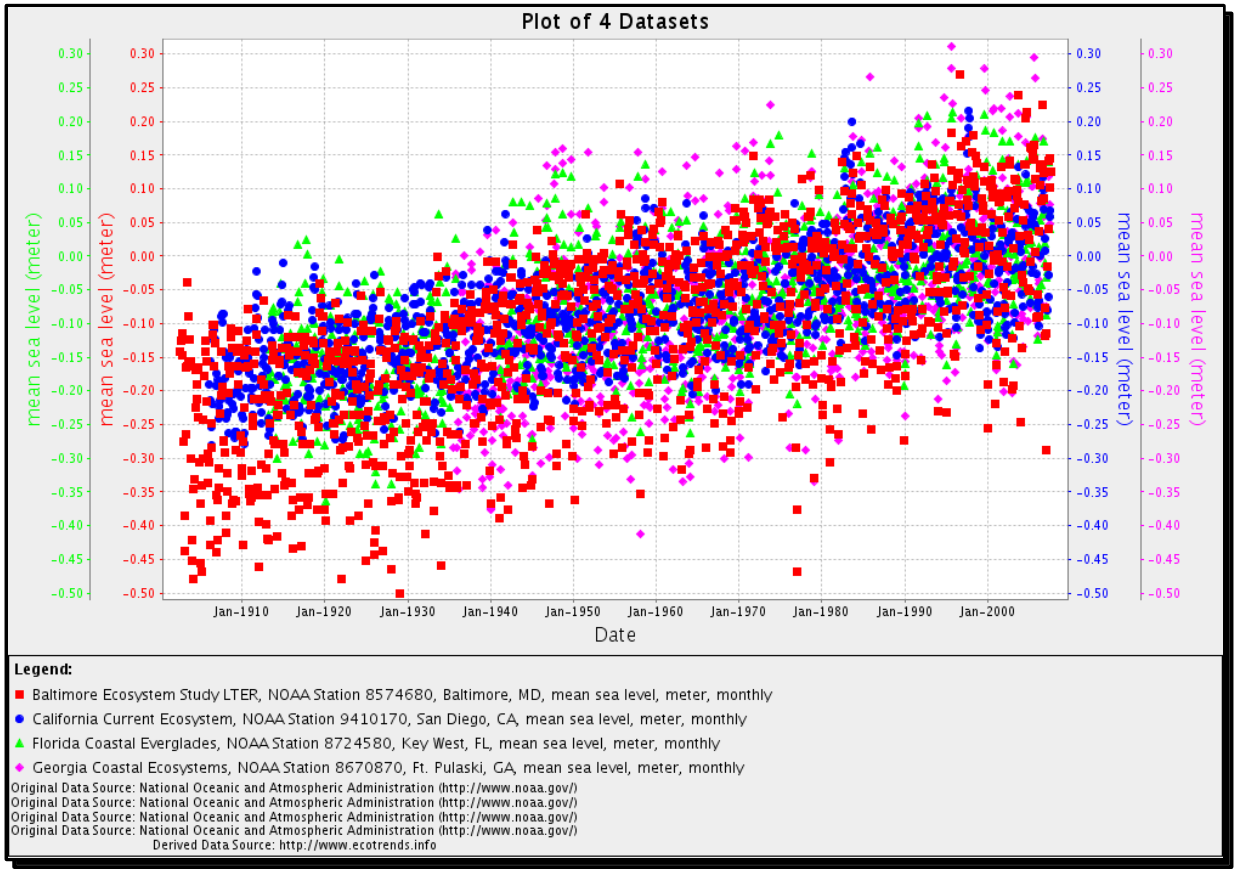
LTER

EcoTrends Web Portal

- Features
  - Data Set Plotting



EcoTrends Web Portal

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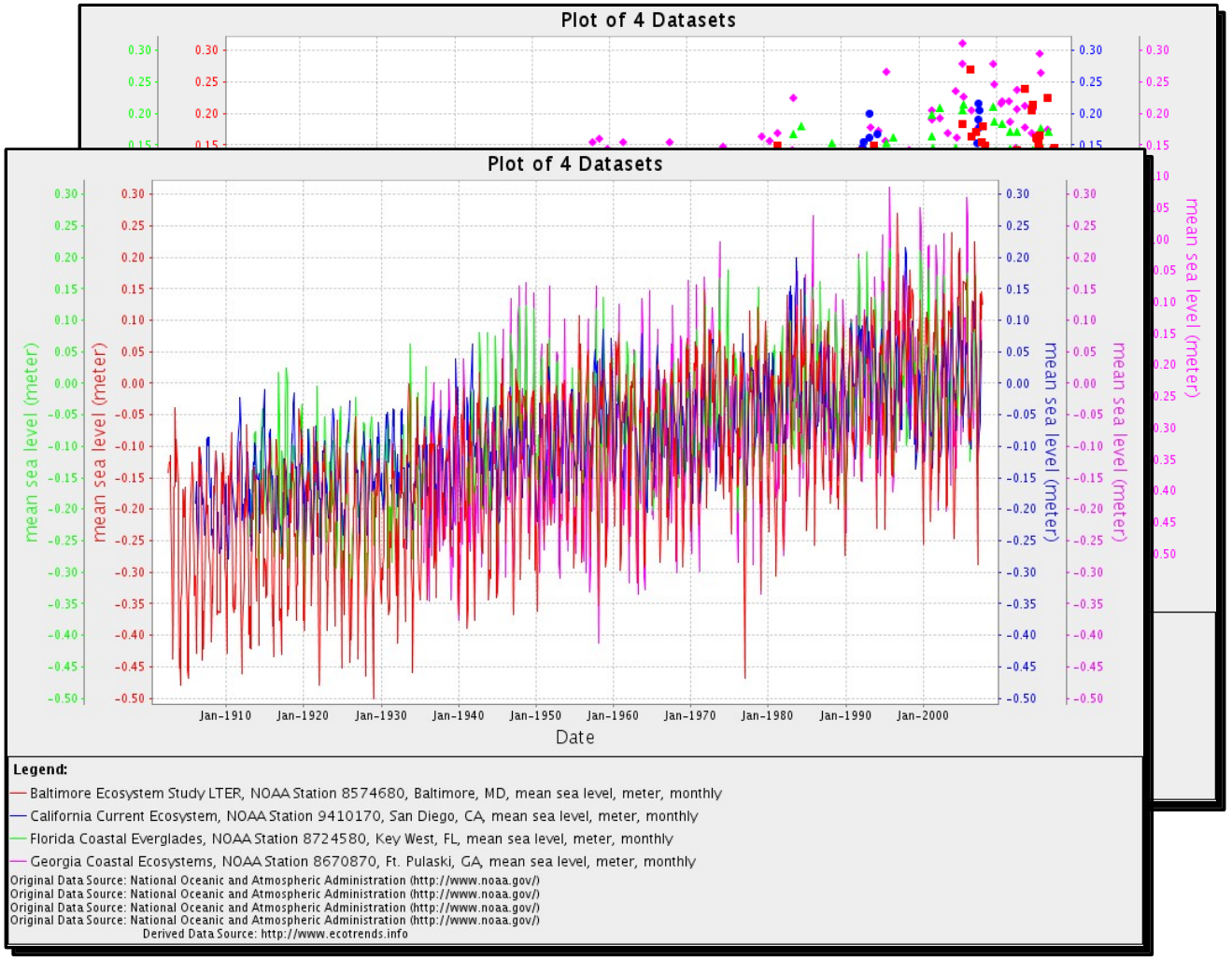
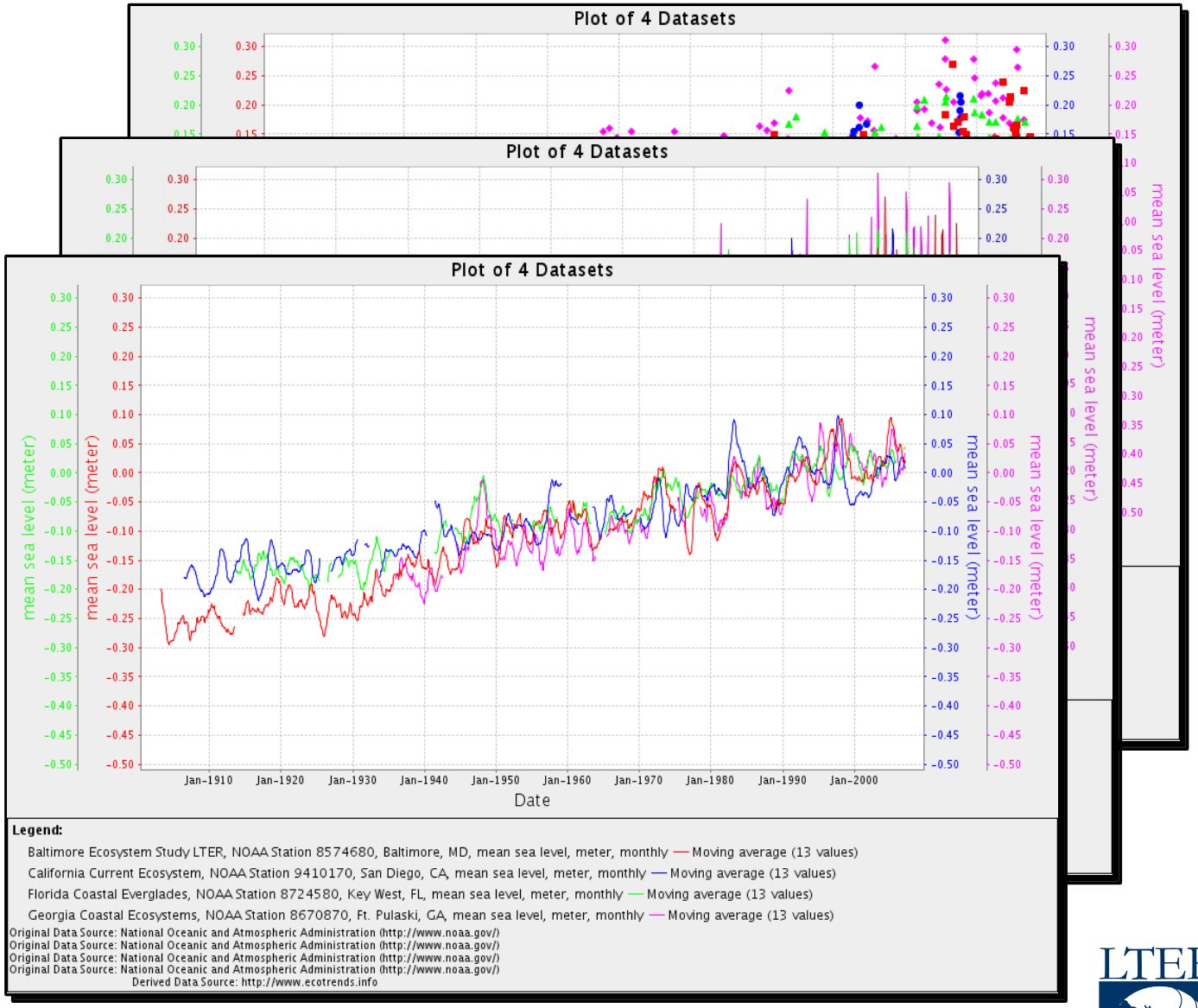


EcoTrends Web Portal

- Features
  - Data Set Plotting



EcoTrends Web Portal

- Features
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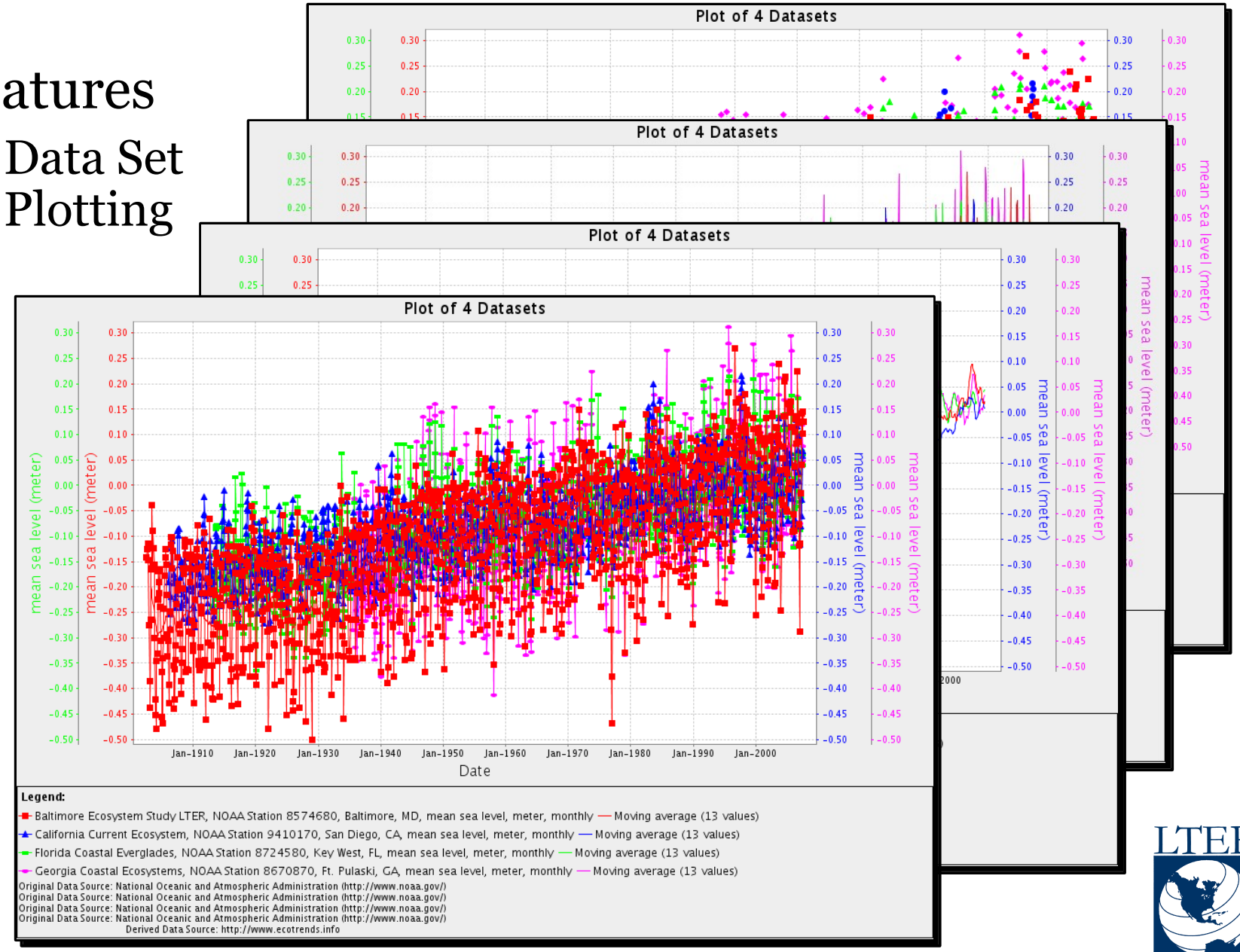
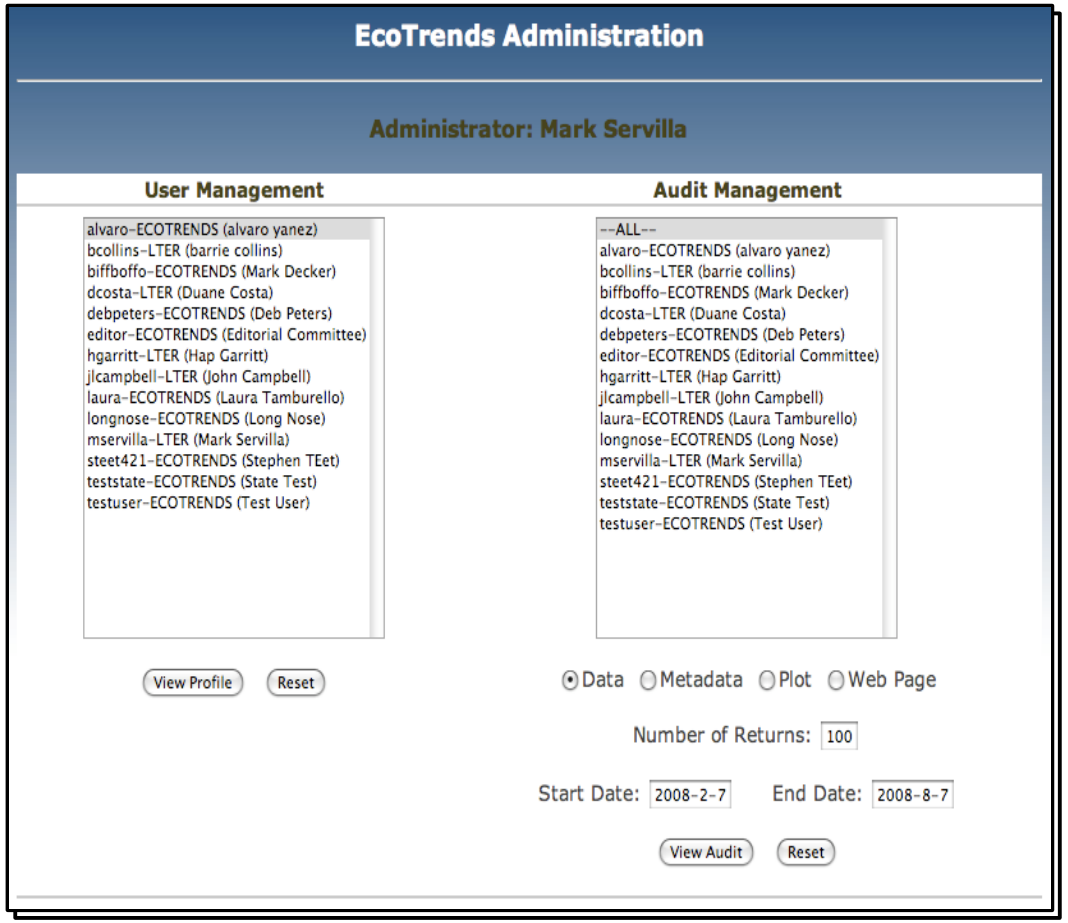


LTER

EcoTrends Web Portal

- Features
  - Administration
  - Audit Trails



EcoTrends Web Portal

- Features
  - Administration
  - Audit Trails

EcoTrends User Profile

User ID	mservilla
Network	LTER
Common Name	Mark Servilla
Organization	LTER Network Office
Email	servilla@lternet.edu
Phone	505-277-2619
Fax	
Street	1 University of New Mexico
City	Albuquerque
State/Provence	New Mexico
Postal Code	87131-0001
Country	United States
Registration Date	2008-02-27 15:35:51
Last Access	2008-08-07 09:40:58

EcoTrends Administration

Administrator: Mark Servilla

User Management

alvaro-ECOTRENDS (alvaro yanez)
bcollins-LTER (barrie collins)
biffboffo-ECOTRENDS (Mark Decker)
dcosta-LTER (Duane Costa)
debpeters-ECOTRENDS (Deb Peters)
editor-ECOTRENDS (Editorial Committee)
hgarritt-LTER (Hap Garritt)
jlcampbell-LTER (John Campbell)
laura-ECOTRENDS (Laura Tamburello)
longnose-ECOTRENDS (Long Nose)
mservilla-LTER (Mark Servilla)
steet421-ECOTRENDS (Stephen TEet)
teststate-ECOTRENDS (State Test)
testuser-ECOTRENDS (Test User)

View Profile | Reset

Audit Management

--ALL--
alvaro-ECOTRENDS (alvaro yanez)
bcollins-LTER (barrie collins)
biffboffo-ECOTRENDS (Mark Decker)
dcosta-LTER (Duane Costa)
debpeters-ECOTRENDS (Deb Peters)
editor-ECOTRENDS (Editorial Committee)
hgarritt-LTER (Hap Garritt)
jlcampbell-LTER (John Campbell)
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longnose-ECOTRENDS (Long Nose)
mservilla-LTER (Mark Servilla)
steet421-ECOTRENDS (Stephen TEet)
teststate-ECOTRENDS (State Test)
testuser-ECOTRENDS (Test User)

(•) Data ( ) Metadata ( ) Plot ( ) Web Page

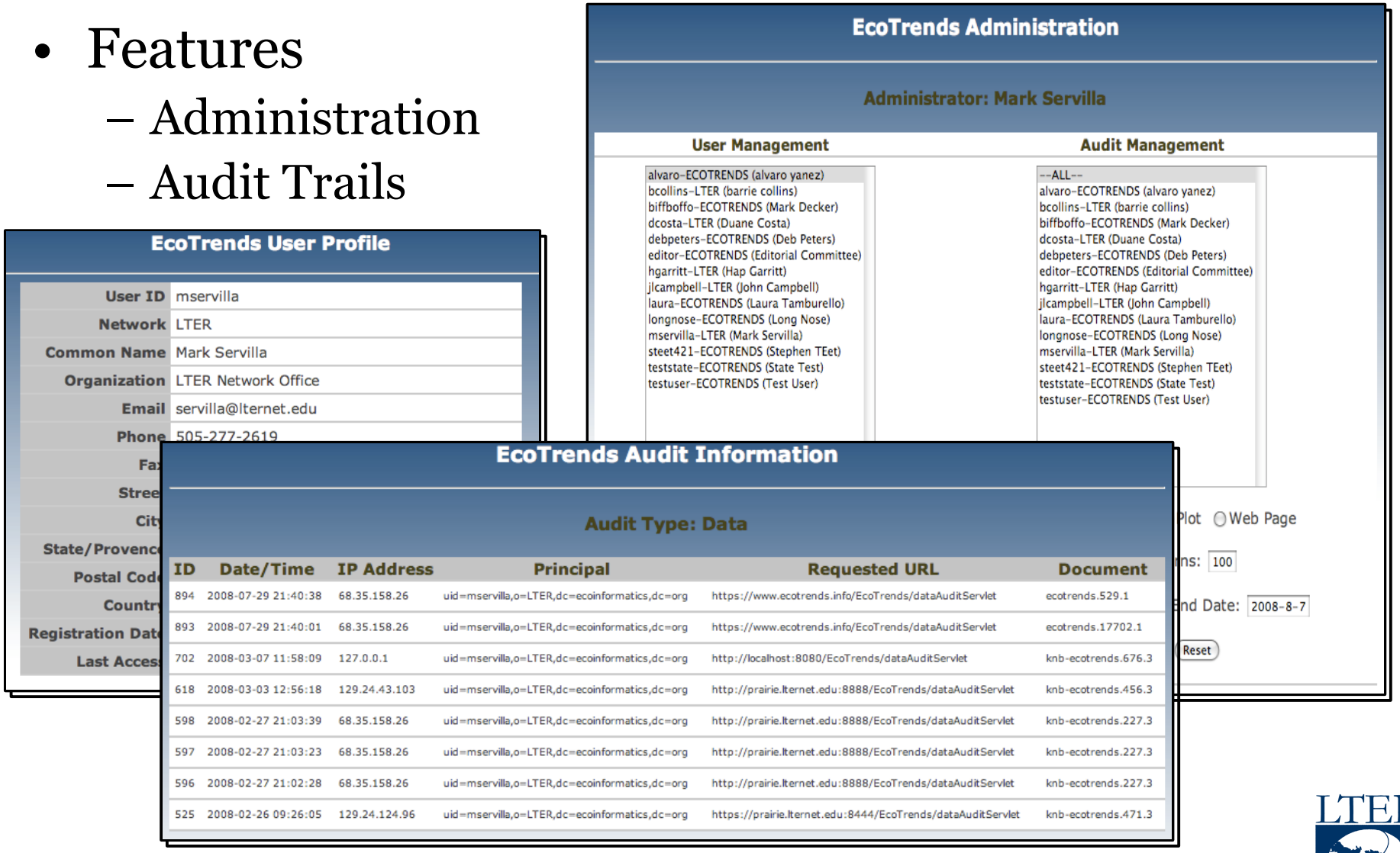
Number of Returns: 100

Start Date: 2008-2-7 End Date: 2008-8-7

View Audit | Reset

EcoTrends Web Portal

- Features
  - Administration
  - Audit Trails



CREATE Metadata

- MODIS data for LTER sites
- Collections 3-4 per day
- Products include:
  - NDIV/NDVI cloud mask (Normalized Difference Vegetation Index)
  - EVI/EVI cloud mask (Enhanced Vegetation Index)
  - FIRE (Active fire detection)
  - Water Vapor Infrared
  - Snow Cover
- EML – one document per product per site (26 x 5 = 130)
- Daily updates to EML
- Daily harvests into Metacat (prototype only)

LTER

ClimDB/HydroDB Migration

- ClimbDB/HydroDB migration from AND to LNO
- Planning Jul/Aug 2008
- Replicate identical hardware/software Sep/Oct 2008
- Move into PASTA framework 2009
  - Enables planning and testing of auto-loading of site data
  - Add CUAHSI web service wrapper

Information Management Support

- Controlled Vocabulary
  - Auto-completion query form
- Unit Dictionary
  - Import site custom units
  - SVN development support for next generation tools

LTER

Subversion

- Migrate current LTER CVS to Subversion
  - A modern Source Code repository
- Benefits
  - Being used by majority of community
  - Not time-stamp dependent; uses hash values
  - Versions both files and directories
  - Provides for deletes, moves, copies
  - Simplified access control (svn://urban.lternet.edu/project)
- Schedule
  - Planning Aug 2008 ✓
  - Deploy SVN Sep 2008 ✓
  - Replicate CVS into SVN Sep 2008 ✓
  - Deprecate CVS Nov 2008

Bugzilla

- Bug/feature tracking application for software projects
- Flexible interface with lots of bells and whistles
- Open source community standard
- Open to community for input at http://fire.lternet.edu/bugzilla
- Ready for business!

LTER

Data Access Server

- Managed access to LTER data products
  - User registration and acceptance of LTER Data Policy
  - Data access notification to data owners
  - Audit logging of data access
  - Data URL/Proxy URL management interface
- References
  - http://lno.lternet.edu/projects/das
  - http://intranet.lternet.edu/archives/documents/Newsletters/DataBits/07fall/#fa3
- Prototyped and RFC May 2007
- Full planning and design Oct 2008

LTER

Horizon Projects

- Web Services for LNO databases
  - Prototyped April 2006
  - RFC for LTER implementation in progress
  - Full planning and design Jan 2009
- Refactoring the LTER Data Catalog
  - Remove from Metacat skins framework
  - Increase and improve flexibility
  - Based EcoTrends model
  - Limits fail-over through NCEAS :-(
  - On the table for discussions