

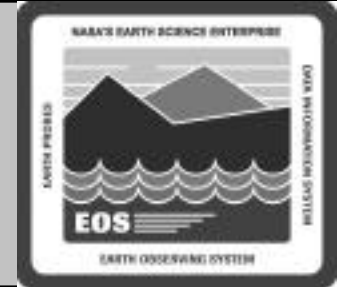
ASTER GDS Interoperability

Guy Swope

Raytheon Raytheon Systems Company

704-CD-510-001

Requirements Summary



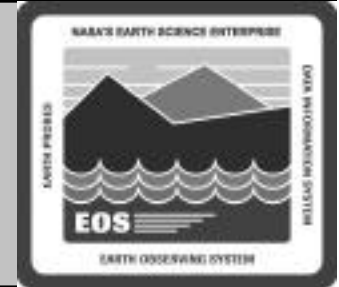
ECS ASTER Gateway supports two-way interoperability between ECS and the ASTER Ground Data System.

- **ECS shall provide an interface to ASTER GDS to support ECS users**
- **ECS shall provide an interface to ECS to support ASTER GDS users**

GDS to ECS Operability Includes

- **Directory Searches**
- **Inventory Searches**
- **Browse**
 - **Including Integrated Browse**

Requirements Summary cont'd



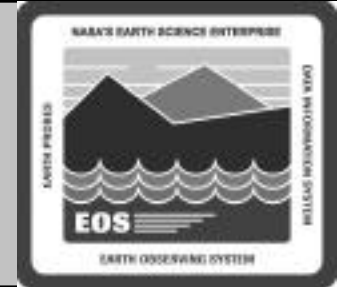
GDS to ECS Operability Also Includes

- Price Estimates
 - Only for Landsat 7 Level 0R WRS (Fixed Scene) datasets
- Orders
- Order Status

GDS to ECS Operability Does Not Include

- ASTER On-Demand Processing
- Landsat 7 0R Floating (partial subinterval) scene
 - Pricing
 - Orders

Requirements Summary cont'd



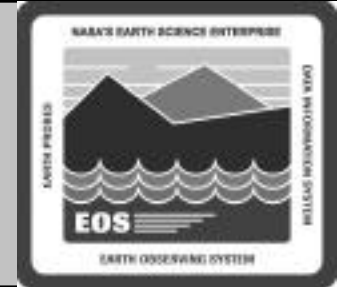
ECS to GDS Operability Includes

- Directory Search
 - Via the same GCMD mechanism as V0
- Inventory Search
- Browse
 - Including Integrated Browse
- Orders

Data Dictionary Maintenance Tool Shall Support

- Import of ASTER GDS dataset valids
- Export of ECS dataset valids

Key Design Drivers



ASTER Interoperability needed to support GDS user access to ECS data holdings

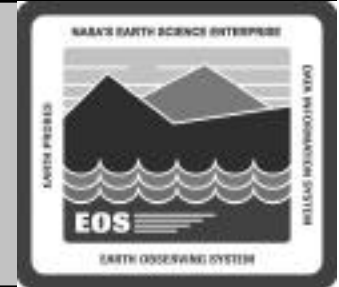
- Includes access to holdings at all ECS DAACs
- Requires cross-DAAC search and order requests

ASTER Interoperability needed to support ECS user access to GDS data holdings

- Access using same ECS client (EOS Data Gateway)
 - Requires valids exchange between ECS and ASTER GDS
- Support for ASTER On-Demand Processing

Extend/Modify V0 protocol to support new GDS requests, ASTER On-Demand processing

New HW/SW Components



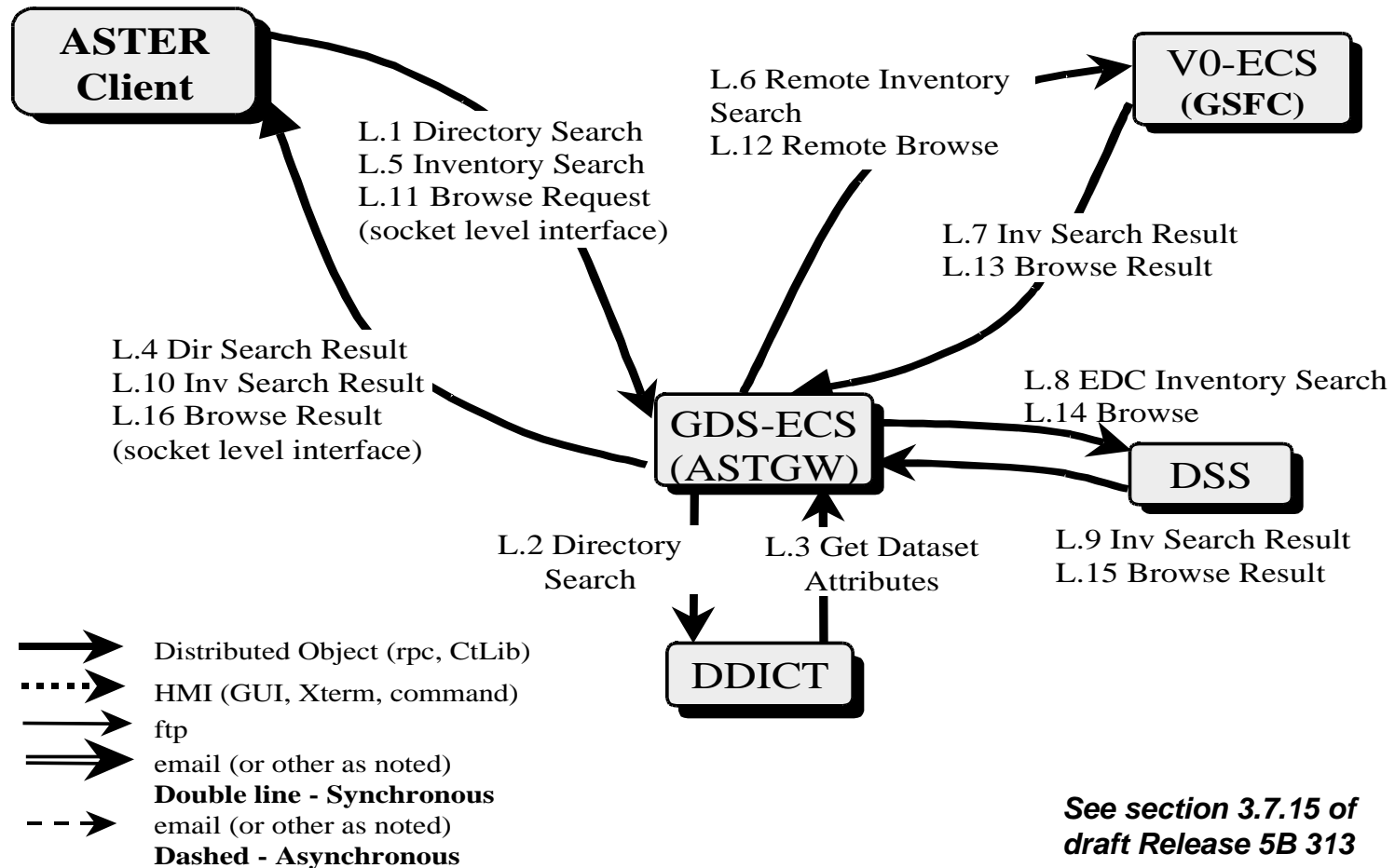
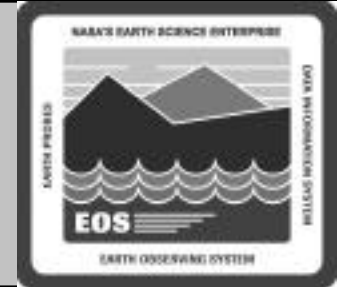
ASTGW - New CSCI in Data Management Subsystem

- **Provides two new servers**
 - **GDS to ECS Gateway**
 - Handles request from GDS users
 - Provides the access to ECS data holdings
 - **ECS to GDS Gateway**
 - Handles requests from ECS users
 - Provides the access to GDS data holdings
- **Resides with other Data Management Subsystem applications on INTHW CI (x0ins01, x0ins02)**
- **Reside only at the EDC DAAC**

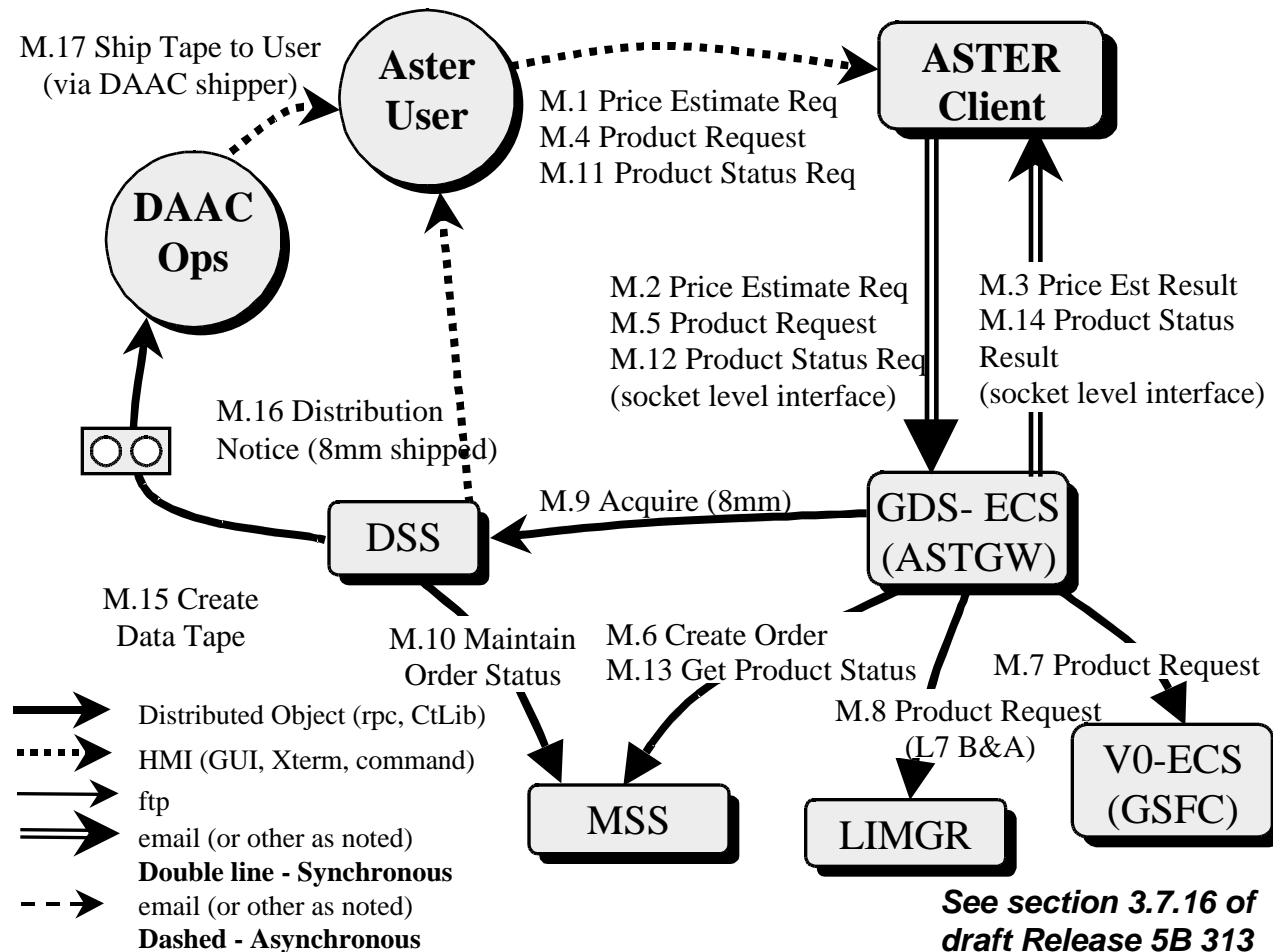
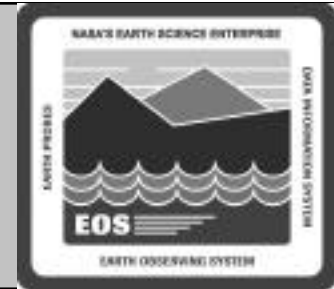
Modifications to existing SW components

- **Data Dictionary Maintenance Tool**
 - **Modified to map ASTER valids to ECS valids and vice versa**
 - **Modified to import GDS and export ECS valids information**

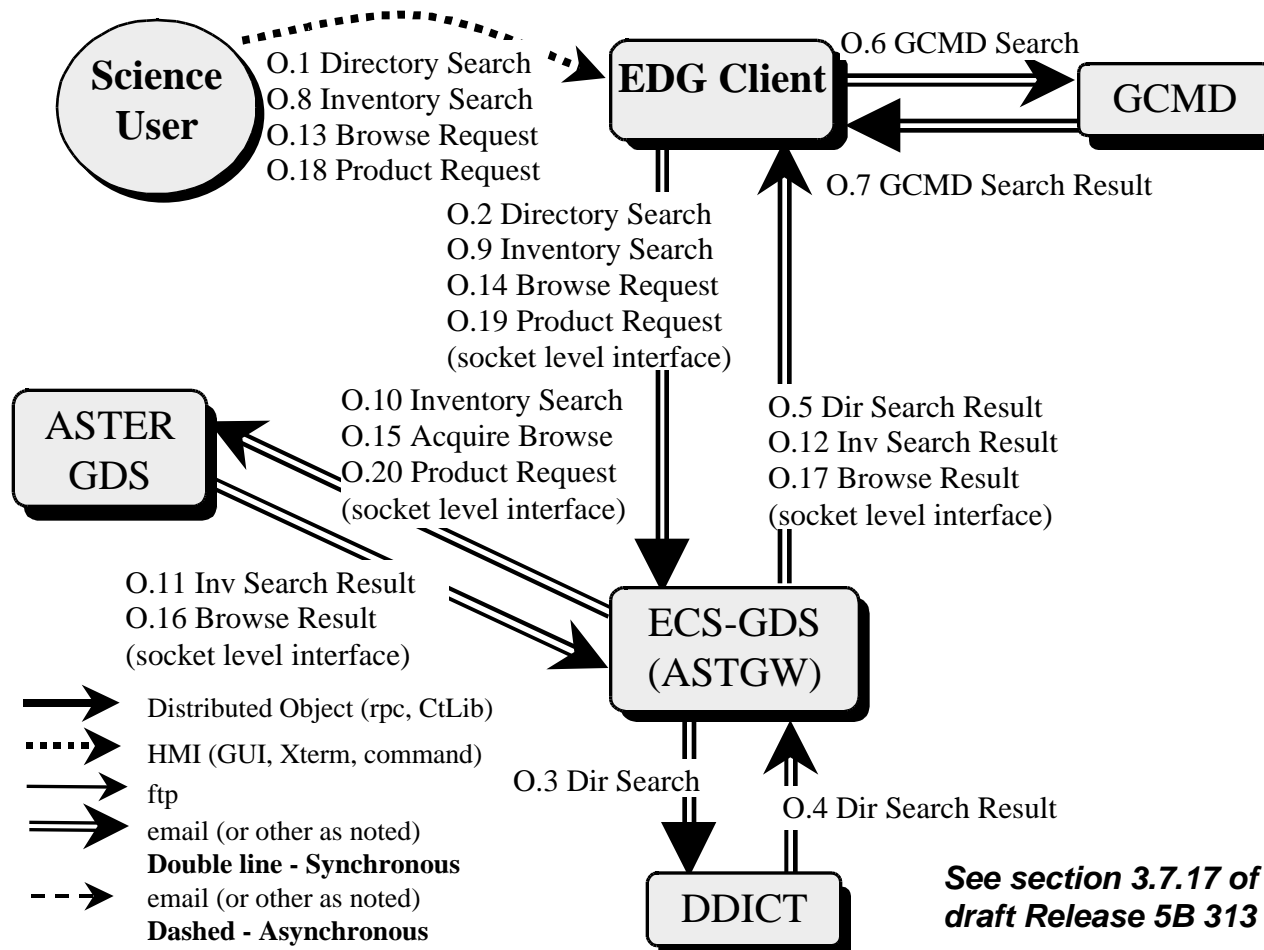
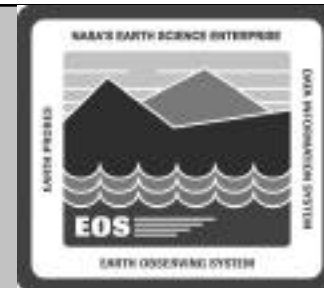
ASTER GDS User Scenario - Search and Browse



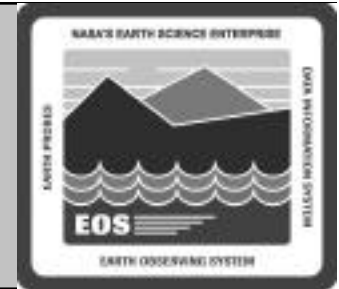
ASTER GDS User Scenario - Price, Order and Order Status



ECS User Search, Browse and Order of ASTER GDS Data



Operational Impacts



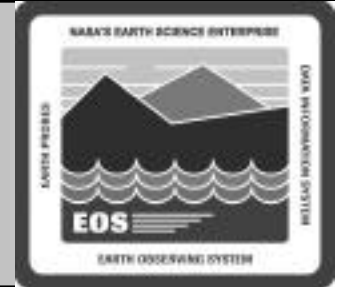
Valids Exchange

- Each DAAC will need to periodically export their ECS collections to ASTER GDS
- EDC DAAC operators will need to periodically import ASTER collections from the ASTER GDS
- EDC DAAC operators will need to periodically import ECS collections in GDS Valids format from other ECS DAACs
 - Needed for cross-DAAC search, browse and order

Two additional sets of configuration parameters for each server including

- Landsat 7 WRS fixed scene price
- Media distribution options

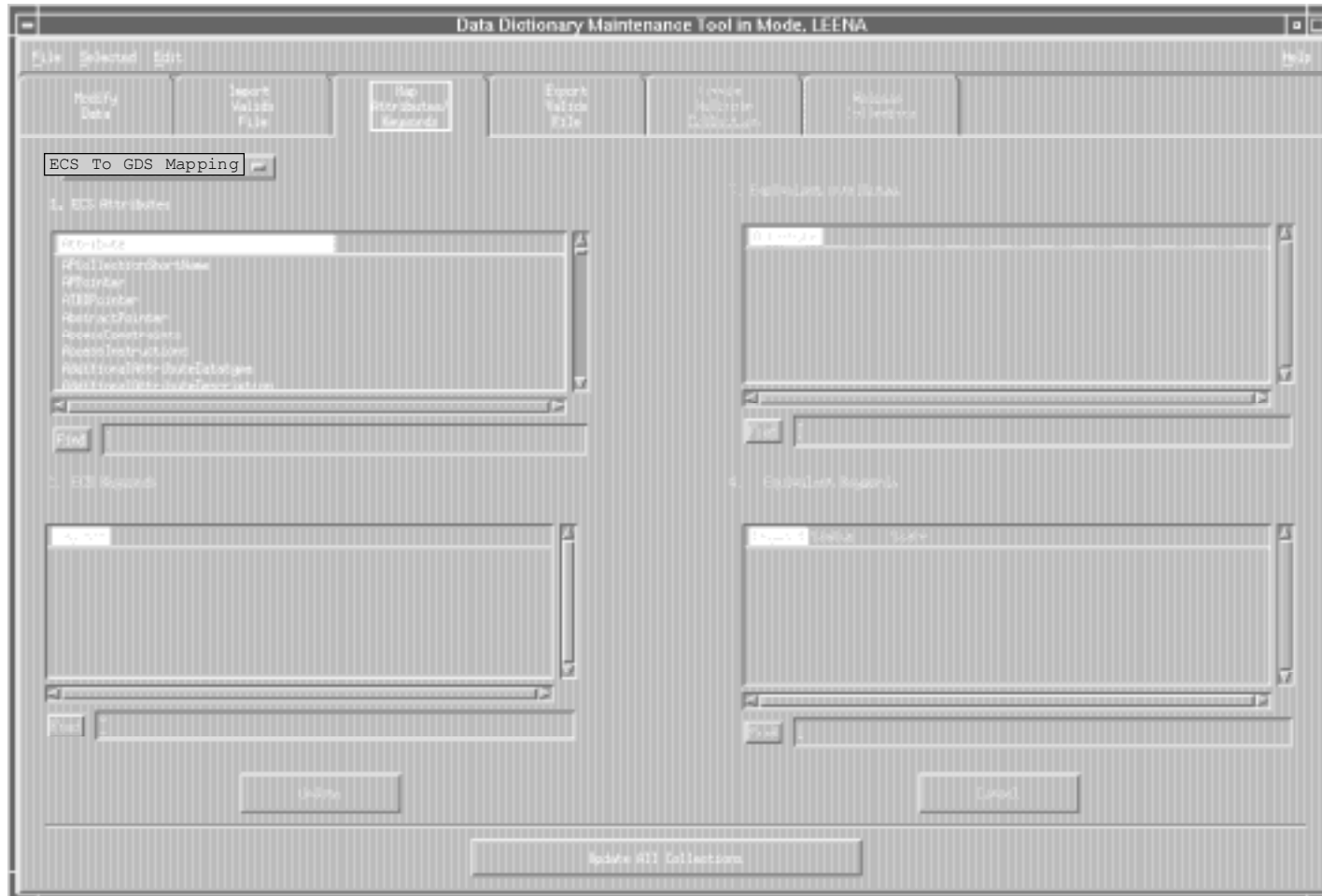
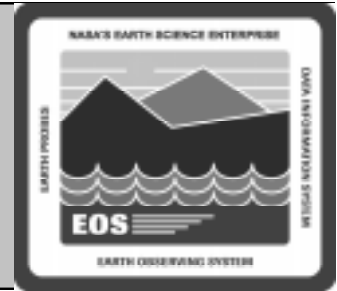
Operational Impacts cont'd



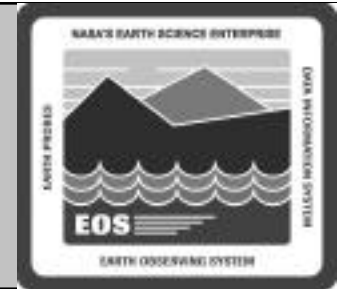
EDC User Services

- **EDC User Services will be point of contact for order status info from GDS users**
 - Typically only for failures since automated status exists
- **EDC User Services will be point of contact for ECS orders of GDS data**
 - Will be able to match up ECS Order ID with ASTER Order ID to query ASTER GDS for status

Data Dictionary Maintenance Tool - Map ASTER Attributes Modified Interface



Data Dictionary Maintenance Tool Import Validates Modified Interface



File Selected Edit Help

Read File Data Read Valid File File Distribution Write Valid File Create Multiple Collections Release Collection

◇ Import ECS Valid ◇ Import GDS Valid

Valid File: or

Check File System

Input Error

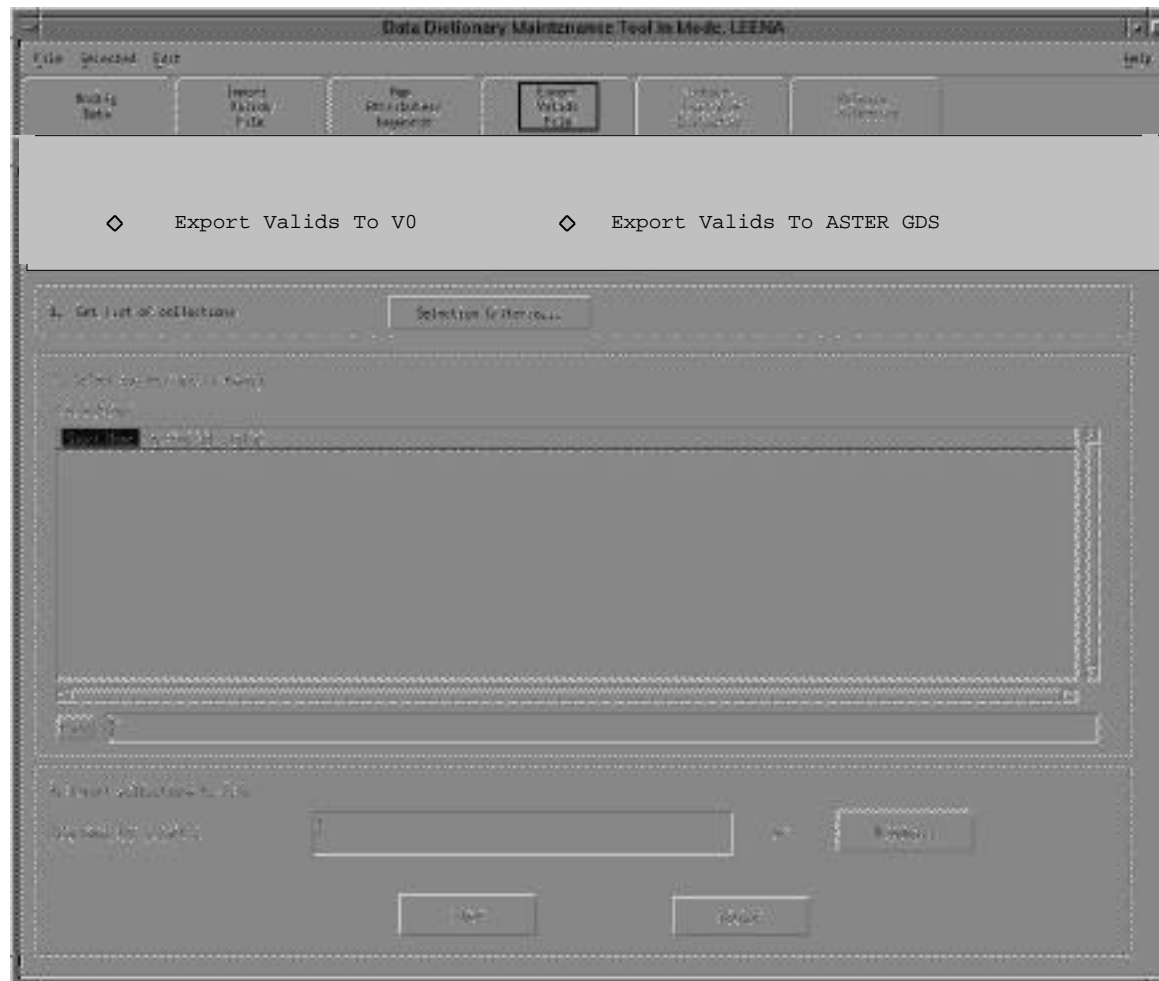
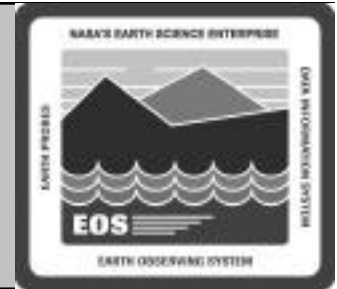
Available Sources

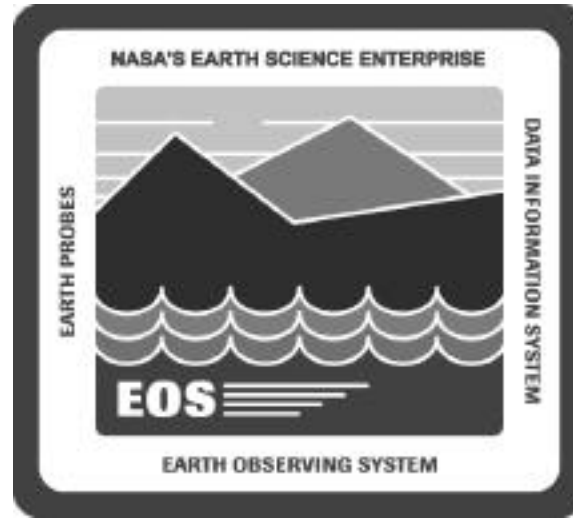
Error File: or

Save Error File

Send Changes to Data Dictionary and Relabel Tables

Data Dictionary Maintenance Tool Export Validates Modified Interface





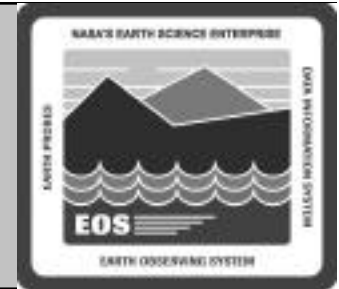
Java DAR Tool (JDT) Update

Mark Pelletier

Raytheon Raytheon Systems Company

704-CD-510-001

Java DAR Tool Background



What is a DAR?

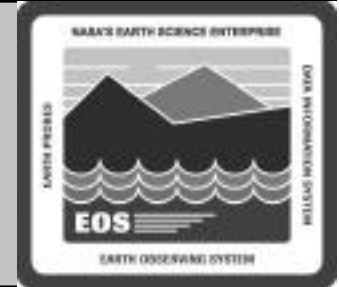
- A Data Acquisition Request, specifically one generated by this tool.

Existing tool can create, submit, modify, copy, delete, rename DARs

What is a xAR?

- Any pre-existing data acquisition requests.
- DARs xARS

Requirements Summary



Search

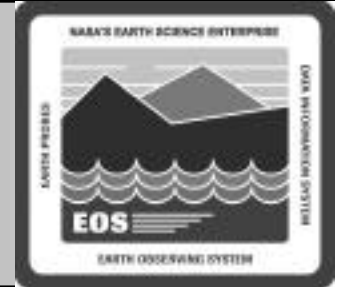
- **Select Area of Search (AOS) -- either graphically or textually**
- **Select temporal parameters**
- **Select additional search parameters**
- **Save/Restore/Delete/Copy search criteria.**

Query Status of search

Results

- **View Results -- display graphically or textually**
- **Show Areas of Interest (AOI) within AOS**
- **Show Observed Scenes within AOI**
- **Save/Restore/Delete/Copy results.**

Key Design Drivers



Web-Based

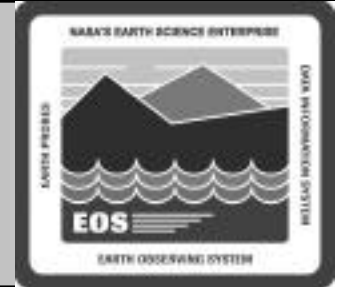
- Run on PC and UNIX
- Java-based tool

User Centered Design

- User Input
- ASTER Science Team Contributed to Gui

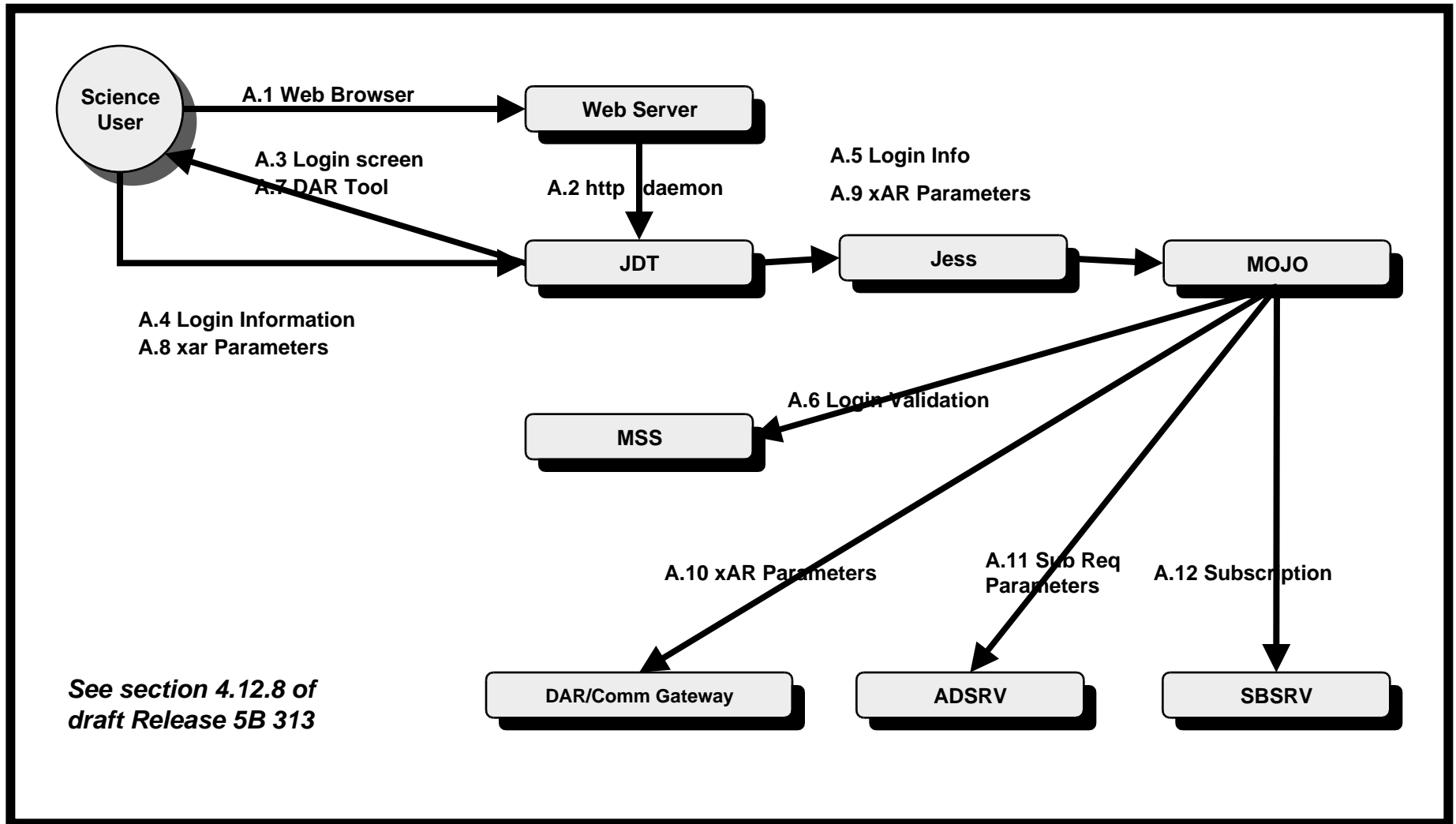
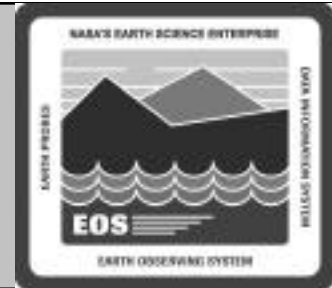
Conformance with ASTER GDS API

New SW Components

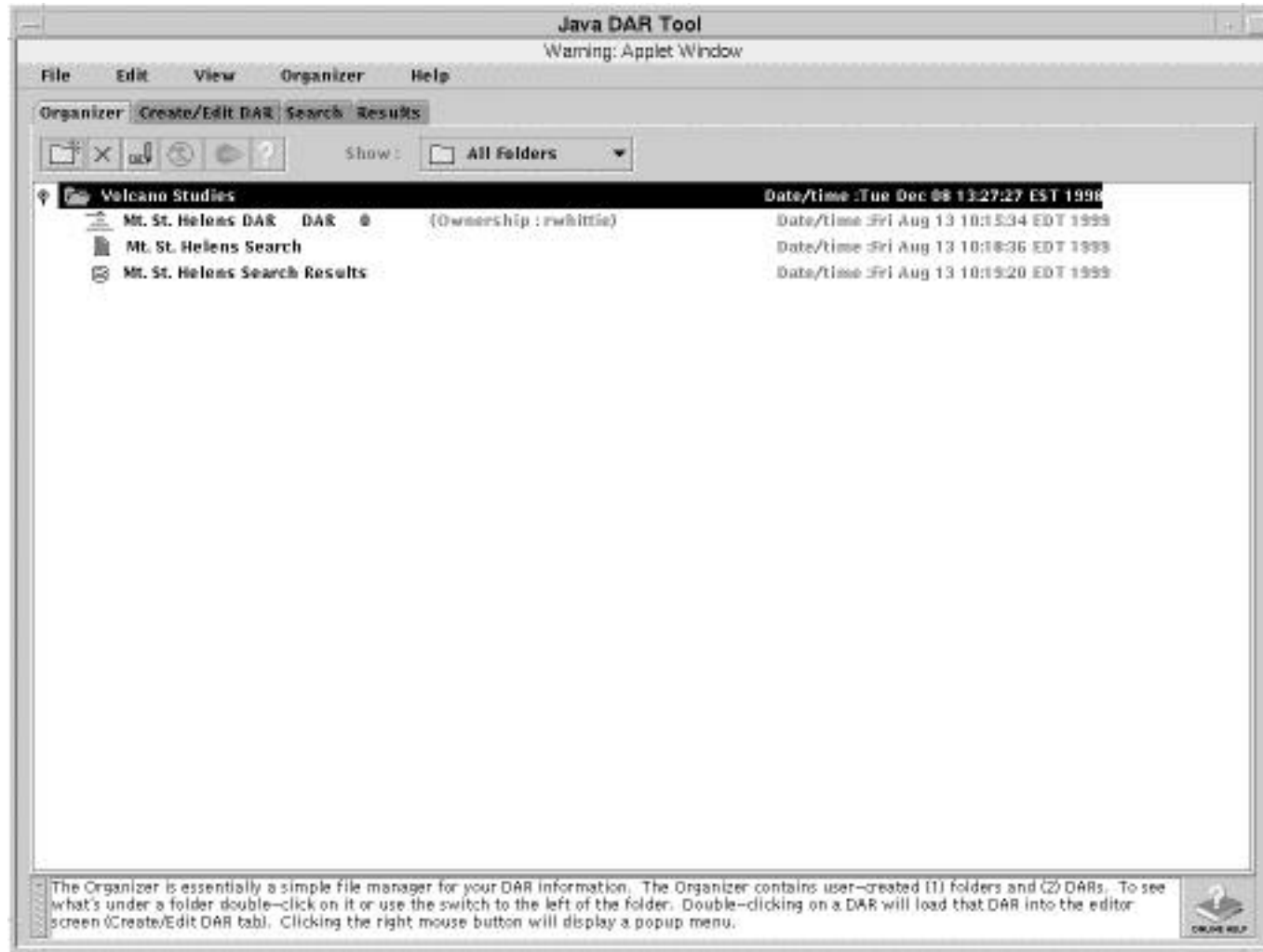
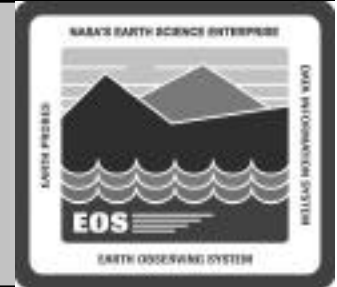


Added tabs to Java DAR tool to search for xARs and retrieve results.

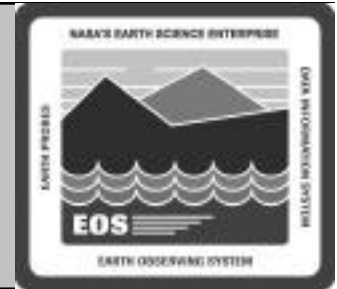
ASTER Search Interaction Diagram



JDAR Tool (JDAR) Organizer Tab



Java DARTOOL General Search Tab (new)



Java DARTool

File Edit View Search Help

Organizer Create/Edit DAR Search Results

Submit Search

General **Geo_Spatial** Temporal Coverage Geometry Priority Dar ID Search

DAR Title: *(exact match required)* Any

DAR Type: Any

User ID: *(entry required if DAR Type = Requestor's DAR)* Any

Investigation Class: Any

DAR Status: Any

Maximum Cloud Coverage(%): <=100%

Minimum Cloud Coverage(%): <=5%

Day and/or Night Settings: Any

Telescope Selection: Any

Note: Press button to save values >>> Update Search >>>

Search Summary

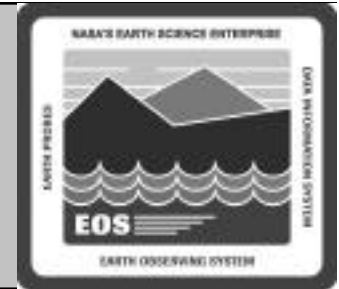
- General - Primary Attributes
- General - Telescope Settings
- Spatial
- Temporal
- Coverage
- Geometry
- Priority

Event Attribute Event All

More Help

Developers who are interested in displaying instruction-level help for the screen << jdtclient.search.SearchScreen >> must implement the `jdk.swing.utilities.ComponentSupport` and set the componentID

Java DAR Tool Search AOS Tab (new)



Java DAR Tool

Warning: Applet Window

File Edit View Search Help

Organizer Create/Edit DAR Search Results

Submit Search

General AOS_Spatial Temporal Coverage Geometry Priority DAR ID Search

Search Summary

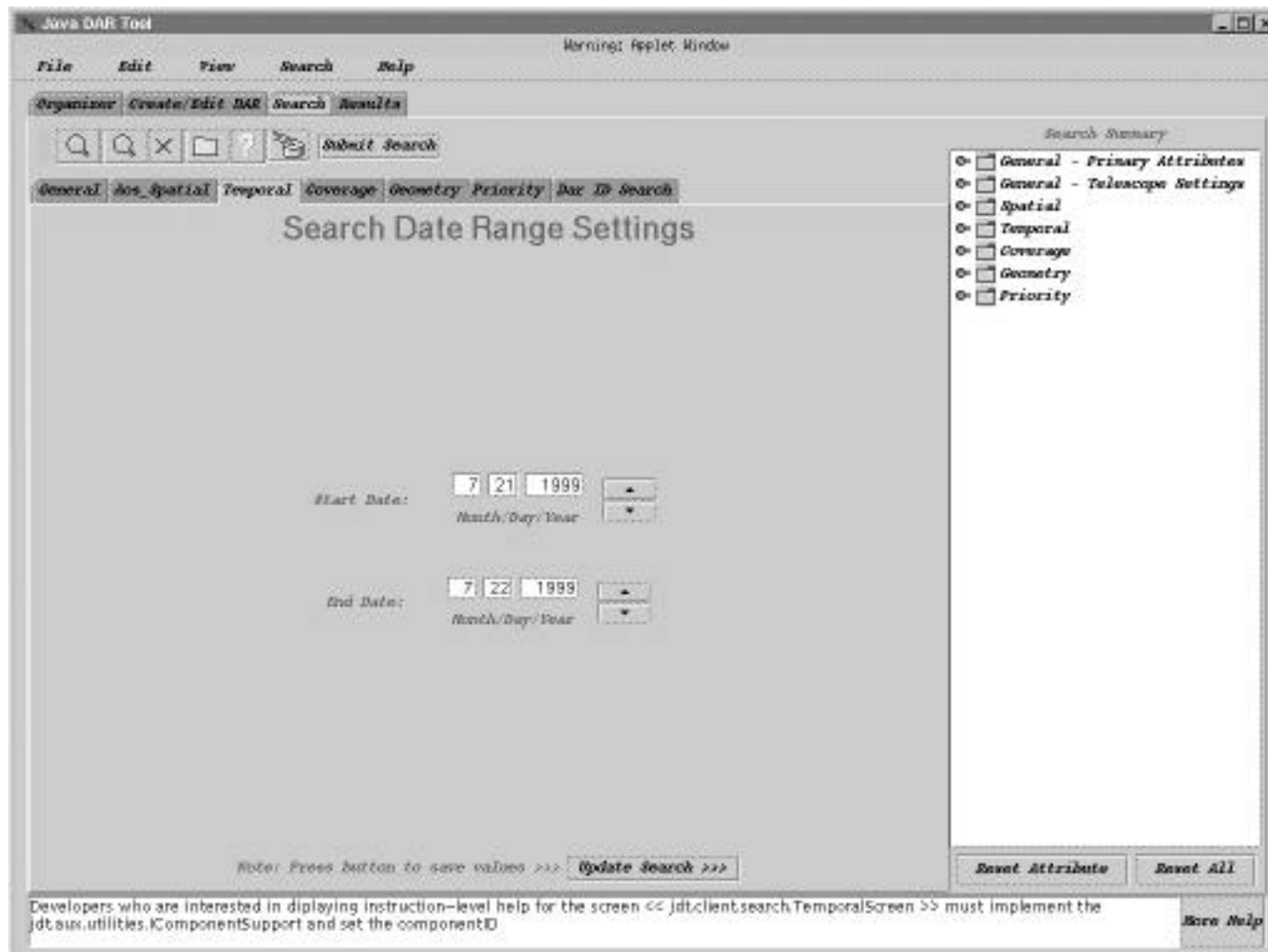
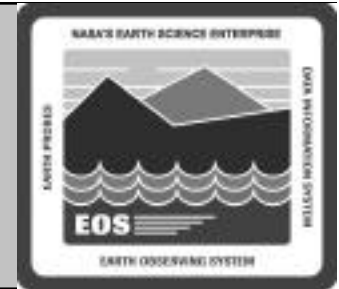
- General - Primary Attributes
- General - Telescope Settings
- Spatial
- Temporal
- Coverage
- Geometry
- Priority

Note: Press button to save values >>> Update DAR >>>

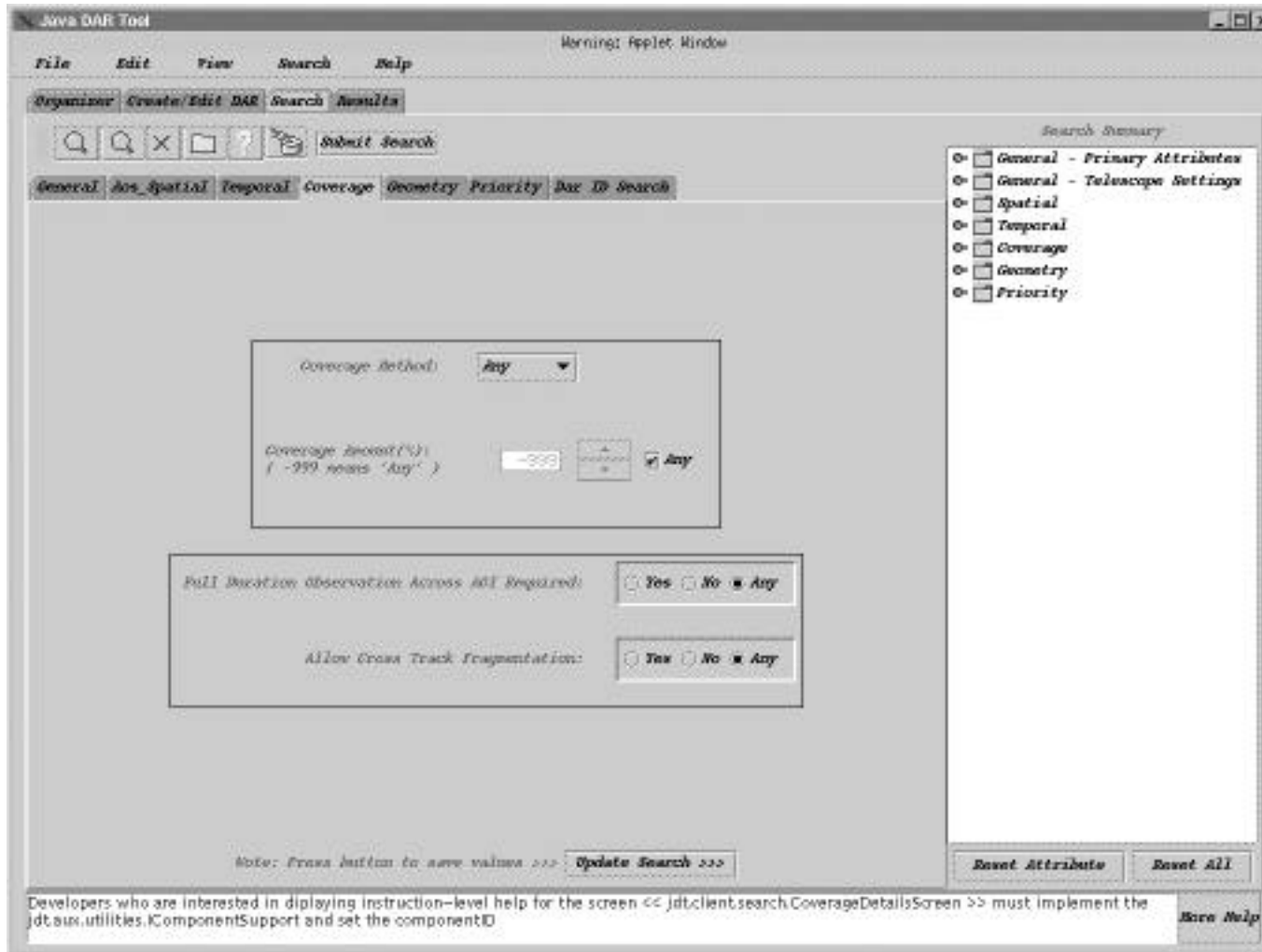
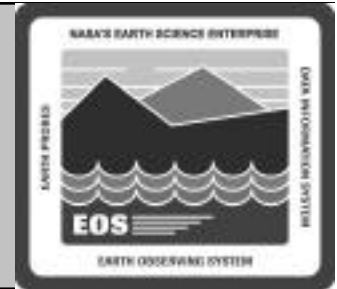
Reset Attribute Reset All Save Help

The Spatial tab above provides the capability to enter DAR parameters by mouse or keyboard. You must set the spatial coordinates (latitude and longitude) that define the Area Of Interest (AOI) polygon for your DAR. All polygons must be fully closed with no intersections. Click on the polygon button to begin entering AOI points. Press 'Update DAR >>>' to display entered parameters in the DAR Summary.

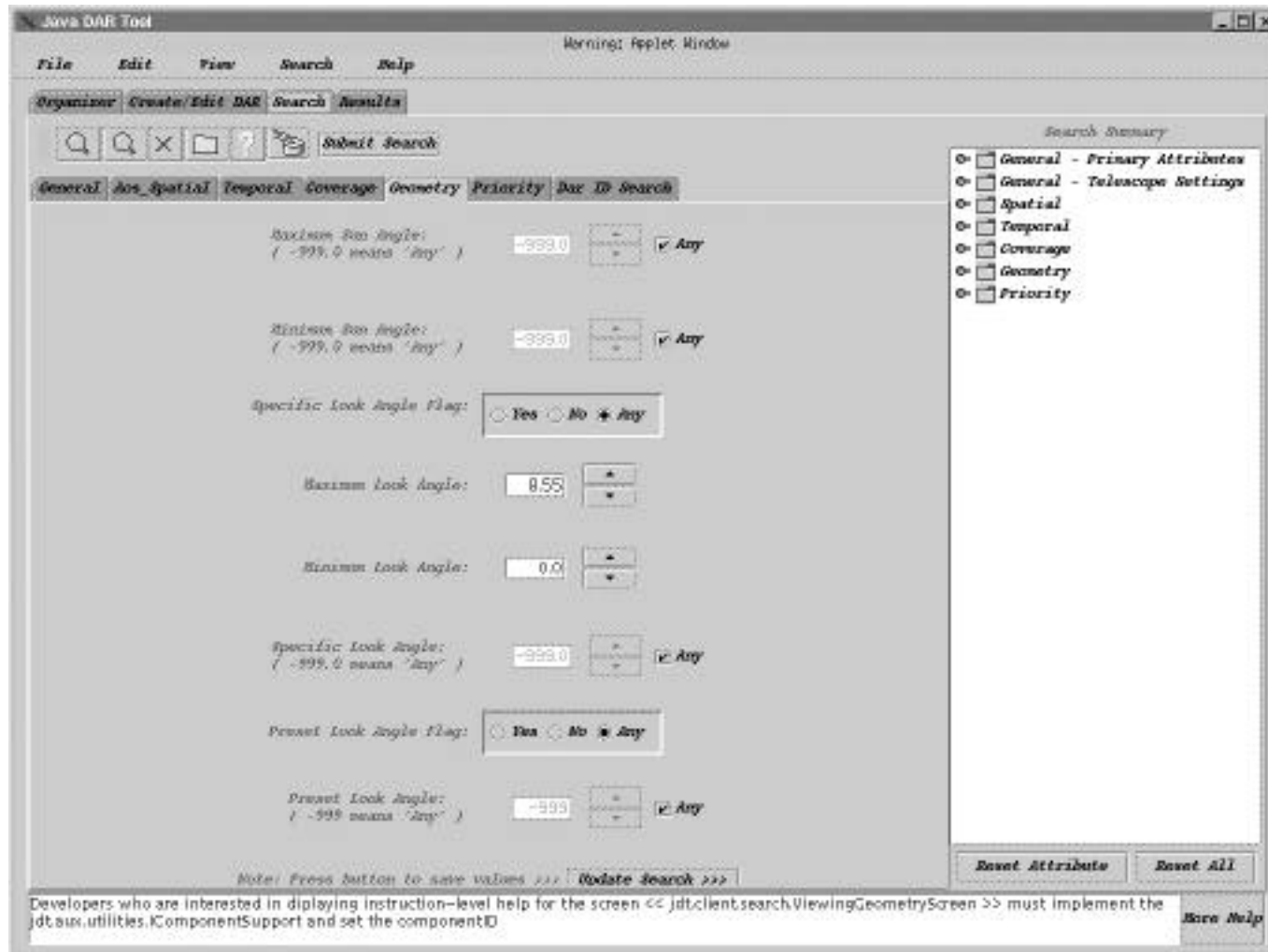
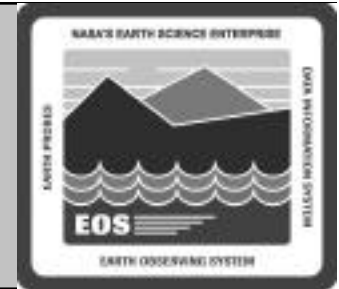
Java DAR Tool Search Temporal Tab (new)



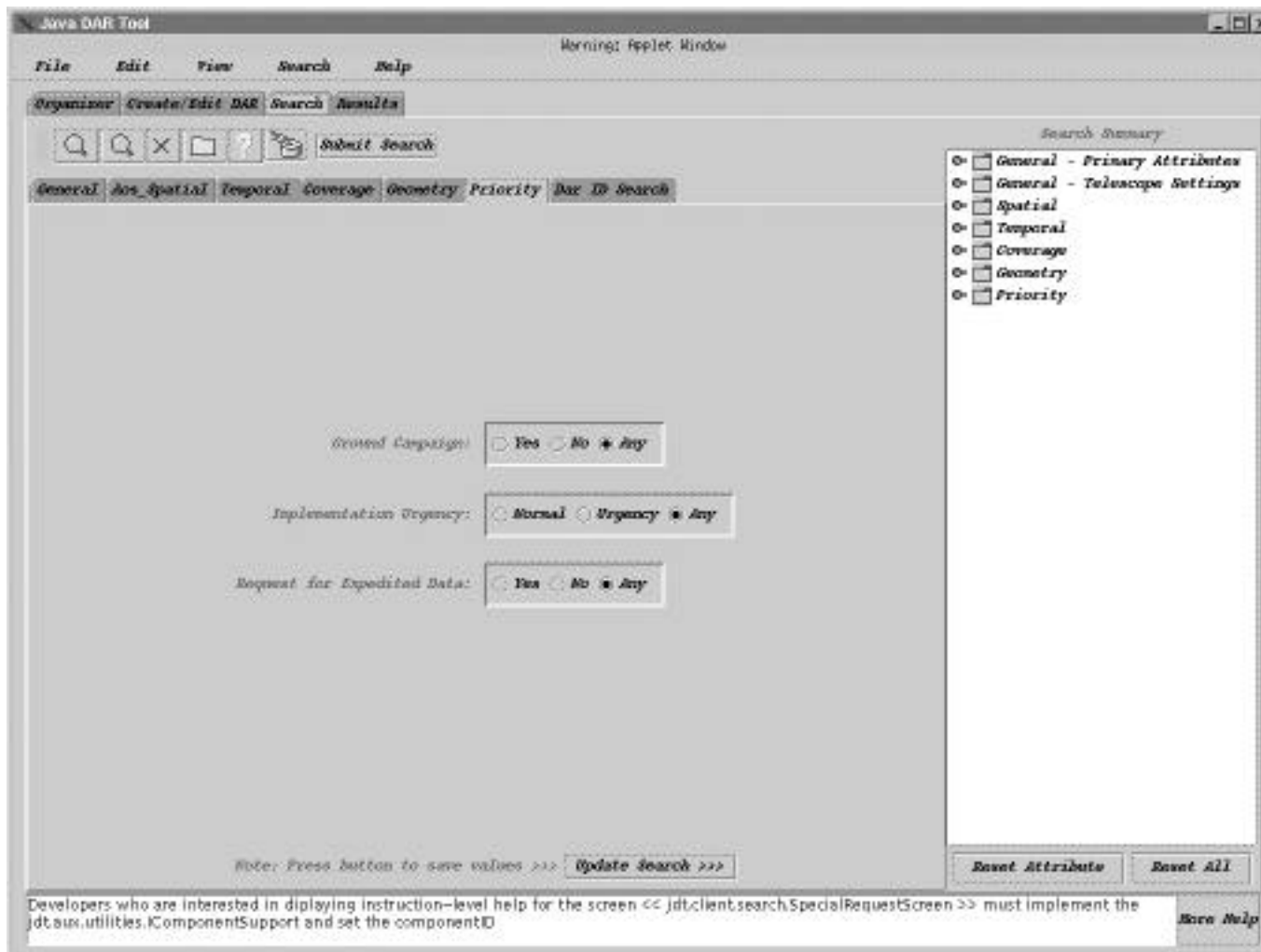
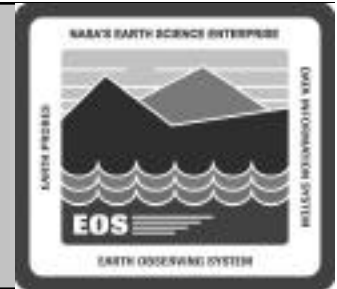
Java DAR Tool Search Coverage Tab (new)



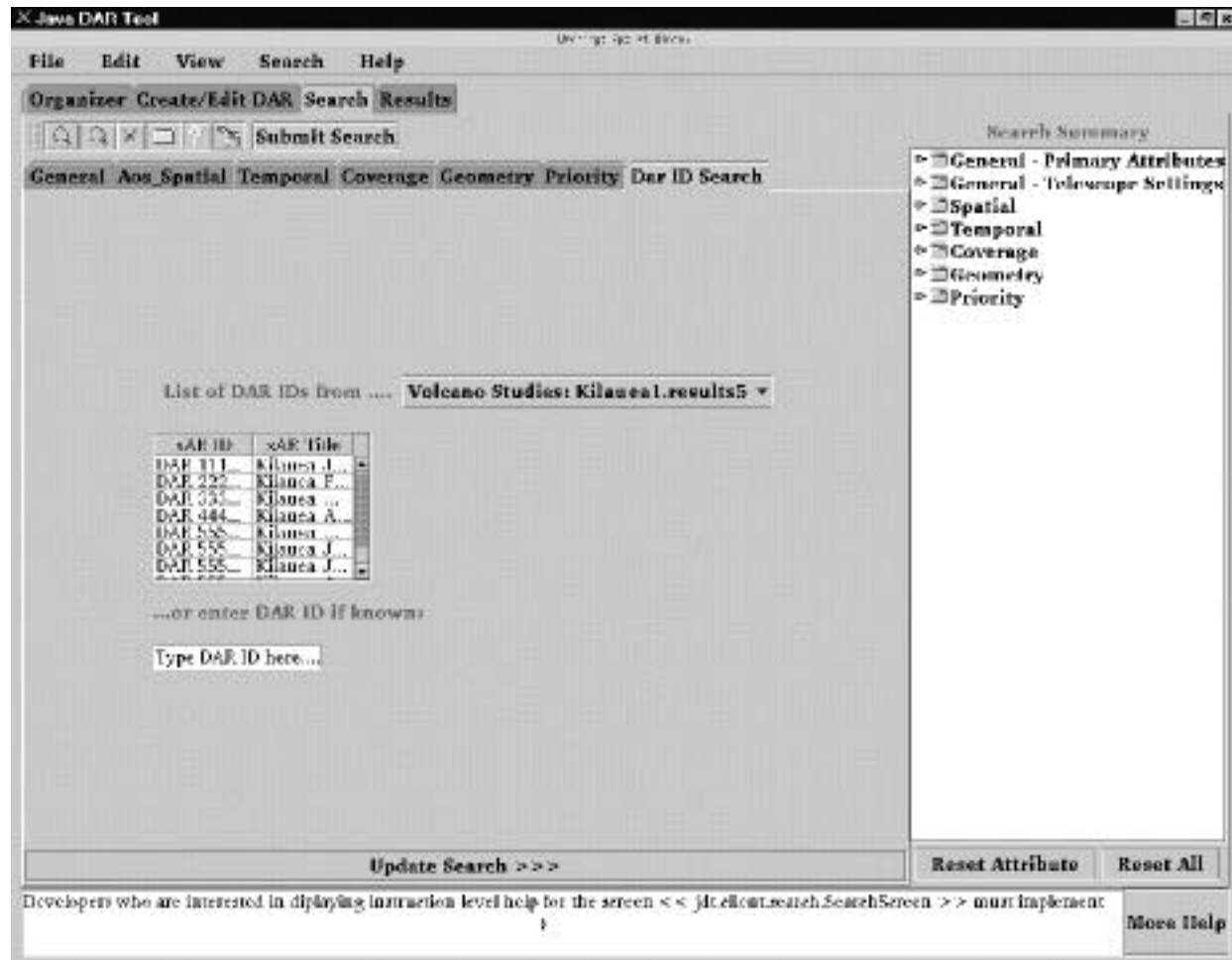
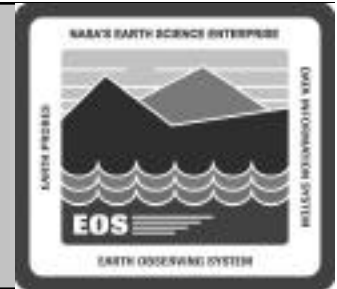
Java DAR Tool Search Geometry Tab (new)



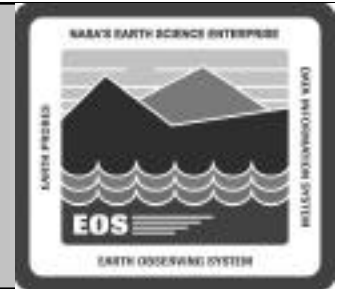
Java DAR Tool Search Priority Tab (new)



DAR ID Search Tab (new)



Search Results Tab (new)



File Edit View Search Results Help

Warning: Applet Window

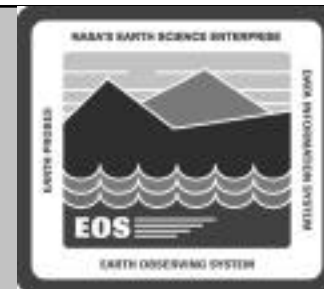
Organizer Create/Edit DMR Search Results

Row	INT ...	INT ID	SW Status	Primary Attributes	Temporal Sorting	Coverage Details...	Multiple Observa...	Coverage Method	Minimum Sample L...	Maximum Sample L...	Number of Sample
0	10_TITLE	10					Yes	Sampled	1	99	
1	11_TITLE	11					Yes	Sampled	1	99	
2	12_TITLE	12					Yes	Sampled	1	99	
3	13_TITLE	13					Yes	Sampled	1	99	
4	14_TITLE	14					Yes	Sampled	1	99	
5	15_TITLE	15					Yes	Sampled	1	99	
6	16_TITLE	16					Yes	Sampled	1	99	
7	17_TITLE	17					Yes	Sampled	1	99	
8	18_TITLE	18					Yes	Sampled	1	99	
9	19_TITLE	19					Yes	Sampled	1	99	
10	20_TITLE	20					Yes	Sampled	1	99	
11	21_TITLE	21					Yes	Sampled	1	99	
12	22_TITLE	22					Yes	Sampled	1	99	
13	23_TITLE	23					Yes	Sampled	1	99	
14	24_TITLE	24					Yes	Sampled	1	99	
15	25_TITLE	25					Yes	Sampled	1	99	
16	26_TITLE	26					Yes	Sampled	1	99	

TMM Station / TMM Search Results

Home Help

DAR Observed Scenes Viewer (new)



Pan map display

View Coordinates for Bounding Rectangle

View Map Legend

View map grid

Select map projections

Select map overlays

Cursor: 19.55

+19.46, -155.56

Projection: Mercator

Cloud Coverage Criterion: 30%

Zoom Out

- Globe
- Continent
- Region
- 1 Scene
- <1 Scene

Zoom In

Scene ID	Scene Status
Scene19837	Product
Scene19558	Product
Scene19761	Failed
Scene19888	Observed
Scene29837	Before Observed
Scene22837	Before Observed

Dismiss
Help

Legend:

- Area of Interest border
- Area of Search border
- Water (Oceans, Rivers/Lakes)
- Political Boundary
- Highways/Railroads
- Urban/Built-Up
- Observation Boundary
- Quadrant Failing
- Cloud Coverage Criteria

ur	19.81	-155.661
ur	19.81	-155.150
ll	19.277	-155.681
lr	19.277	-155.681

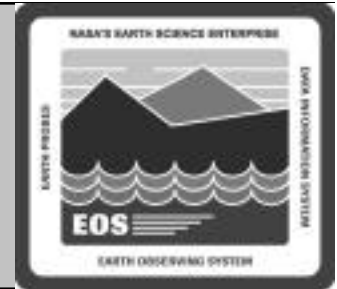
Projections:

- Geographical (Plate Carree)
- Mercator (Default)
- Polar Stereographic
- Lambert Conformal Conic
- Space Oblique Mercator (SOM)

Overlays:

- Political/Ocean
- Highways/Railroads
- Rivers/Lakes
- Urban/Built-up

View Observed Scenes Dialog (new)

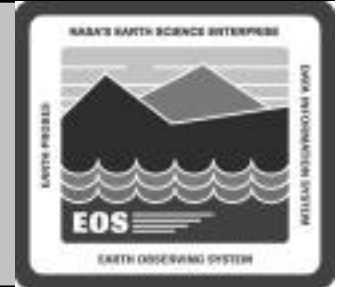


Dialog
Herring: Applet Window

Number of Sample	Scene ID	Scene Status	Center DayTime	Path	Row
	100101	In Production	Sun Apr 25 18:32:00 EDT ..	12	45
	100102	In Production	Sun Apr 25 18:32:00 EDT ..	12	45
	100201	Before Observation	Sun Apr 25 18:32:00 EDT ..	12	45
	100202	Failed	Sun Apr 25 18:32:00 EDT ..	12	45

Cancel Help

Operational Impacts



None