

# Planetary Science Archive

## Users Quick Guide

*MEX Data Workshop*

*11-15th June 2008*

*ESAC*

*Dave Heather (dheather@rssd.esa.int)*

## PSA Definition and Purpose

The *Planetary Science Archive (PSA)* is the initiative, the setup, the process and the implementation to preserve data from ESA's spacecraft to planetary bodies, as well as supplementary information acquired in laboratories or ground-based observatories.

The prime objectives of the PSA are:

- to support the experimenter teams in the preparation for the spacecraft and ground-based long-term archives
- to enable and ensure the (long-term) preservation of these archives
- distribution of scientific useful data to the world wide scientific community
- provision of supplementary data services aiming to maximize the usage of planetary mission data and ease the scientific data analysis.

The PSA will be advised by a PSA Scientific Advisory Group that meets at least yearly.

# The PDS Standard

- **All PDS compatible data formats conform to a unified standard format incorporating documentation, calibration, and raw and processed data files.**
- **The format distinguishes:**
  - **Data files**
    - **The lowest level is that of the data files themselves. At this level each file will have a PDS label either appended to the beginning of the file or, more often, in a separate but proximate file. "One file, one label" is the general rule.**
  - **Meta-data Files**
    - **At the intermediate level are files which describe the circumstances and parameters of the data collection (for example: the instrument used, the observatory site, the type of data collected, etc.). These files are called "catalog objects" or just "catalog" files.**
  - **Volume/Dataset Description Files**
    - **These files are included on any distribution medium intended to be an entire, self-contained archive - for example, a set of DVDs or a ZIP file. The volume description files detail the organization of the data in the archive (in terms of directories, e.g.) and any additional documentation and software which might be included.**
- **The PDS Standards are defined in the PDS Standards Reference Document.**
- **A Data Dictionary exists for the PDS and PSA which contains all keywords and values permitted by the Standard. Definitions of all keywords can be found here. A useful online version is also available.**

# The PDS Standard

- All PDS compatible data formats come with documentation, calibration, and raw data
- The format distinguishes:
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  - Meta-data Files
    - At the intermediate level of the data collection (for example, of data collected, etc.). They are used to describe the data.
  - Volume/Dataset Description File
    - These files are included in the data contained archive - for example, they detail the organization of the data and any additional documentation.
- The PDS Standards are defined in the PDS Standard
- A Data Dictionary exists for the PDS Standard. Definitions of all parameters are available.

```

PDS_VERSION_ID                = PDS3

/* FILE DATA ELEMENTS */
RECORD_TYPE                    = FIXED_LENGTH
RECORD_BYTES                   = 10420
FILE_RECORDS                   = 60291
LABEL_RECORDS                  = 2

/* POINTERS TO DATA OBJECTS */
^IMAGE_HEADER                  = 3
^IMAGE                          = 4

/* IDENTIFICATION DATA ELEMENTS */
FILE_NAME                      = "H0887_0000_ND2.IMG"
DATA_SET_ID                    = "MEX-M-HRSC-3-RDR-V2.0"
DETECTOR_ID                    = MEX_HRSC_NADIR
...
PROCESSING_LEVEL_ID           = 2
RELEASE_ID                     = 0012
REVISION_ID                    = 0000

/* TIME DATA ELEMENTS */
SPACECRAFT_CLOCK_START_COUNT  = "1/0044420119.56188"
SPACECRAFT_CLOCK_STOP_COUNT   = "1/0044420414.62539"
START_TIME                    = 2004-09-28T02:56:14.637Z
STOP_TIME                      = 2004-09-28T02:59:53.654Z
...
OBJECT                         = IMAGE
INTERCHANGE_FORMAT             = BINARY
LINES                          = 60288
LINE_PREFIX_BYTES              = 68
LINE_SAMPLES                   = 5176
SAMPLE_TYPE                    = MSB_INTEGER
SAMPLE_BITS                    = 16
BANDS                           = 1
BAND_STORAGE_TYPE              = BAND_SEQUENTIAL
MAXIMUM                        = 206
MEAN                           = 79.8813
MINIMUM                        = 23
STANDARD_DEVIATION             = 23.3757
END_OBJECT
    
```

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```

PDS_VERSION_ID                = PDS3

/* FILE DATA ELEMENTS */
RECORD_TYPE                    = FIXED_LENGTH
RECORD_BYTES                   = 10420
FILE_RECORDS                   PDS_VERSION_ID                = PDS3
LABEL_RECORDS                 LABEL_REVISION_NOTE         = "2004-09-28: JZ/ESA Draft 1"
                                RECORD_TYPE                    = FIXED_LENGTH
                                RECORD_BYTES                   = 80
/* POINTERS TO DATA OBJECTS */
^IMAGE_HEADER                 ^IMAGE
                                RELEASE_ID                     = 0001
                                REVISION_ID                    = 0000
                                OBJECT                          = INSTRUMENT
                                INSTRUMENT_HOST_ID             = MEX
                                INSTRUMENT_ID                  = HRSC

/* IDENTIFICATION DATA 1 */
FILE_NAME                      INSTRUMENT_NAME               = "HIGH RESOLUTION STEREO CAMERA"
DATA_SET_ID                   INSTRUMENT_TYPE                = "CCD CAMERA"
DETECTOR_ID                   INSTRUMENT_DESC                 = ""
...
                                Instrument Overview
                                =====
                                The High Resolution Stereo Camera (HRSC), originally developed for the
                                Russian-led Mars-96 mission, was selected as part of the Orbiter
                                payload for ESA's Mars Express mission. The HRSC is a pushbroom
                                scanning instrument with nine CCD line detectors mounted in parallel
                                in the focal plane. Its unique feature is the ability to obtain
                                near-simultaneous imaging data of a specific site at high resolution,
                                with along-track triple stereo, four colours and five different
                                phase angles, thus avoiding any time-dependent variations of the
                                observational conditions. An additional Super-Resolution Channel (SRC)
                                a framing device will yield nested images in the metre-resolution range
                                for detailed photogeologic studies. The spatial resolution from the
                                nominal periapsis altitude of 250 km will be 10 m px-1, with an image
                                swath of 53 km, for the HRSC and 2.3 m px-1 for the SRC.
                                During the mission's nominal operational lifetime of 1 martian year
                                (2 Earth years) and assuming an average HRSC data transfer share of 40%,
                                it will be possible to cover at least 50% of the martian surface at
                                a spatial resolution of 15 m px-1. More than 70% of the surface
                                can be observed

PROCESSING_LEVEL_ID           RELEASE_ID
REVISION_ID

/* TIME DATA ELEMENTS */
SPACECRAFT_CLOCK_START_TIME  SPACECRAFT_CLOCK_STOP_TIME
START_TIME                   STOP_TIME
...
OBJECT
INTERCHANGE_FORMAT           LINES
LINE_PREFIX_BYTES            = 68
LINE_SAMPLES                  = 5176
SAMPLE_TYPE                   = MSB_INTEGER
SAMPLE_BITS                   = 16
BANDS                          = 1
BAND_STORAGE_TYPE             = BAND_SEQUENTIAL
MAXIMUM                       = 206
MEAN                          = 79.8813
MINIMUM                       = 23
STANDARD_DEVIATION           = 23.3757
END_OBJECT
    
```

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/* FILE DATA ELEMENTS */
RECORD_TYPE                    = FIXED_LENGTH
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FILE_RECORDS                   PDS_VERSION_ID                = PDS3
LABEL_RECORDS                 LABEL_REVISION_NOTE         = "2004-09-28: JZ/ESA Draft 1"
                                RECORD_TYPE                    = FIXED_LENGTH
                                RECORD_BYTES                   = 80
/* POINTERS TO DATA OBJECTS */
                                RELEASE_ID                     = 0001
                                REVISION_ID                   = 0000
^IMAGE_HEADER                 OBJECT                        = INSTRUMENT
^IMAGE                         INSTRUMENT_HOST_ID          = MEX
                                INSTRUMENT_ID                 = HRSC

/* IDENTIFICATION DATA 1 */
OBJECT                         = INSTRUMENT_INFORMATION
FILE_NAME                     INSTRUMENT_NAME              = "HIGH RESOLUTION STEREO CAMERA"
DATA_SET_ID                   INSTRUMENT_TYPE              = "CCD CAMERA"
DETECTOR_ID                   INSTRUMENT_DESC              = ""
...
PROCESSING_LEVEL_ID
RELEASE_ID
REVISION_ID

/* TIME DATA ELEMENTS */
SPACECRAFT_CLOCK_START_TIME
SPACECRAFT_CLOCK_STOP_TIME
START_TIME
STOP_TIME
...
OBJECT
INTERCHANGE_FORMAT
LINES
LINE_PREFIX_BYTES
LINE_SAMPLES
SAMPLE_TYPE
SAMPLE_BITS
BANDS
BAND_STORAGE_TYPE
MAXIMUM
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```

Instrument Overview

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RECORD_TYPE             = FIXED_LENGTH
RECORD_BYTES            = 10420
FILE_RECORDS            PDS_VERSION_ID
LABEL_RECORDS          LABEL_RECORDS
/* POINTERS TO DATA OBJECTS */
^IMAGE_HEADER          RELEASE_ID
^IMAGE                 REVISION_ID
/* IDENTIFICATION DATA 1 */
FILE_NAME               INSTRUMENT_ID
DATA_SET_ID            INSTRUMENT_ID
DETECTOR_ID            INSTRUMENT_ID
...
PROCESSING_LEVEL_ID
RELEASE_ID
REVISION_ID
/* TIME DATA ELEMENTS */
SPACECRAFT_CLOCK_START_TIME
SPACECRAFT_CLOCK_STOP_TIME
START_TIME
STOP_TIME
...
OBJECT
INTERCHANGE_FORMAT
LINES
LINE_PREFIX_BYTES
LINE_SAMPLES
SAMPLE_TYPE
SAMPLE_BITS
BANDS
BAND_STORAGE_TYPE
MAXIMUM
MEAN
MINIMUM
STANDARD_DEVIATION
END_OBJECT
    
```

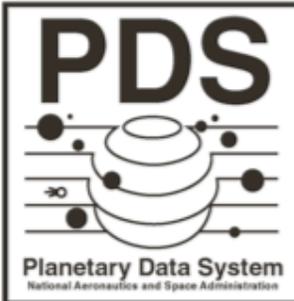
The High Resolution Russian-language payload for scanning in the focal plane simulator

- Up to his
- [CATAL](#)
- [DATA](#)
- [BROWS](#)
- [CALIB](#)
- [DOCUM](#)
- [CRONE](#)
- [LABEL](#)
- [INDEX](#)
- [VOLUME](#)
- [AREA](#)

JPL D-7669, Part 2

## Planetary Data System Standards Reference

February 1, 2006  
Version 3.7



Jet Propulsion Laboratory  
California Institute of Technology  
Pasadena, California

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  - Volume/Dataset Description File
    - These files are included in the data contained archive - for example, PDS files detail the organization of any additional documentation
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PDS_VERSION_ID                = PDS3

/* FILE DATA ELEMENTS */
RECORD_TYPE                   = FIXED_LENGTH
RECORD_BYTES                   = 10420
FILE_RECORDS
LABEL_RECORDS

/* POINTERS TO DATA OBJECTS */
^IMAGE_HEADER
^IMAGE

/* IDENTIFICATION DATA ELEMENTS */
FILE_NAME
DATA_SET_ID
DETECTOR_ID
...
PROCESSING_LEVEL_ID
RELEASE_ID
REVISION_ID

/* TIME DATA ELEMENTS */
SPACECRAFT_CLOCK_START_TIME
SPACECRAFT_CLOCK_STOP_TIME
START_TIME
STOP_TIME
...
OBJECT
  INTERCHANGE_FORMAT
  LINES
  LINE_PREFIX_BYTES
  LINE_SAMPLES
  SAMPLE_TYPE
  SAMPLE_BITS
  BANDS
  BAND_STORAGE_TYPE
  MAXIMUM
  MEAN
  MINIMUM
  STANDARD_DEVIATION
END_OBJECT
    
```

V6 MGISO009-03-01 ELEMENT DEFINITIONS		
<b>AVERAGE_INCLINATION</b>	[PDS-GRID-MGNN]	REAL <exp>
The average_inclination element provides the value of the angle of inclination of the predicted orbit with respect to the xy-plane of the J2000 coordinate system.		
<b>AVERAGE_ORBIT_PERIHELION_TIME</b>	[PDS-GRID-MGNN]	REAL
The average_orbit_perihelion_time element provides the value of the perihelion time of the predicted orbit. This time is based on the elements used to generate the orbital ephemeris for the current mapping pass. It represents an average over the orbit cycle, and is not the result of post-orbit navigation solutions. The current orbit elements are copied from the orbit header file of the ALT-RDR type, or, if unavailable, from the orbit header file of the C-RDR.		
<b>AVERAGE_PERTURBATION_ARGUMENT</b>	[PDS-GRID-MGNN]	REAL <exp>
The average_perturbation_argument element provides the value of the angle in the plane of the predicted orbit from the ascending node in the xy-plane of the J2000 coordinate system to the perihelion.		
<b>AVERAGE_PLANETARY_RADIUS</b>	[PDS-GRID-MGNN]	REAL <exp>
The average_planetary_radius element provides the value of the planetary radius of the radiometer instrument, used to compare radiometric, longitudinal, latitude, and albedo surface temperatures and atmospheric corrections to surface emissivity.		
<b>AVERAGE_SEMIMAJOR_AXIS</b>	[PDS-GRID-MGNN]	REAL <exp>
The average_semimajor_axis element provides the value of the semi-major axis of the predicted orbit.		
<b>AXES</b>		INTEGER(1,4)
The axes element identifies the number of axes or dimensions of an array or cube data object.		
<b>AXIS_INTERVAL</b>		CONTEXT DEPENDENT
The axis_interval element identifies the spacing of value(s) for an ordered sequence of regularly sampled data objects along a defined axis. For example, a spectrum measured in the 0.4 to 3.5 micrometer spectral region at 0.1 micrometer intervals, but whose values are stored in descending order in an ARRAY object would have an axis_interval = 0.1. For ARRAY objects with more than 1 axis, a sequence of values is used to identify the axis_interval associated with each axis_name.		
<b>AXIS_ITEMS</b>		INTEGER(1,4)
The axis_items element provides the dimension(s) of the axes of an array data object. For arrays with more than 1 dimension, this element provides a sequence of values corresponding to the number of axes specified. The rightmost item in the sequence corresponds to the most rapidly varying axis, by default.		
<b>AXIS_NAME</b>		CHARACTER(30)
The axis_name element provides the sequence of axis names of a cube or array data object, and identifies the order in which the axes are stored in the object. By default, the first axis name in the sequence identifies the array dimension that varies the slowest, followed by the next slowest, and continuing so the rightmost axis name varies the fastest. The number of names specified must be equal to the value of the axes element. Note: For ISIS cube data objects, the most frequently varying axis is listed first, as defined, in the sequence.		
<b>AXIS_ORDER_TYPE</b>		CHARACTER
The axis_order_type element is used to identify the storage order for elements of a multidimensional ARRAY object. The default storage order for an ARRAY object provides the rightmost or last axis of a sequence varies the fastest. This is the ordering used in the C programming language and is equivalent to ROW_MAJOR storage order for FORTRAN elements with tables. Specifying an AXIS_ORDER_TYPE of FIRST_FASTEST may be used for ARRAYS that must be labeled and referenced in the reverse, and is the ordering used in the Fortran programming language.		
<b>AXIS_START</b>		CONTEXT DEPENDENT
The axis_start element identifies the starting value(s) for an ordered sequence of regularly sampled data objects. For example, a spectrum that was measured in the 0.4 to 3.5 micrometer spectral region at 0.1 micrometer intervals, but whose values are stored in descending order would have axis_start = 3.5 and		

# PDS Resources

- <http://pds.jpl.nasa.gov>
- More information on the PDS and complete versions of the Standards Reference and Data Dictionary
- The Data Dictionary can be found here
- Supporting Software Tools can be downloaded here



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The screenshot shows the 'Planetary Data System: Home' page. The main content area is titled 'PDS Data Dictionary Lookup'. It includes a search bar and a list of elements. The 'alias\_name' element is highlighted, and its details are shown in a separate window.

Title - Elements	Description
<a href="#">a_solar_radius</a>	The a_solar_radius element provides the value of the semi-major axis of...
<a href="#">abstract_desc</a>	The ABSTRACT_DESC contains an abstract for the product of...
<a href="#">abstract_text</a>	The abstract_text element provides a free-form...
<a href="#">accumulation_count</a>	The ACCUMULATION_COUNT element identifies the number of measurement...
<a href="#">address_text</a>	The address_text data element provides an unlimited-length...
<a href="#">airmass</a>	The AIRMASS element defines the astronomical ratio 'airmass', which is...
<a href="#">algorithm_desc</a>	The algorithm_desc element describes the data...
<a href="#">algorithm_name</a>	The algorithm_name element provides (where applicable) the...
<a href="#">algorithm_version_id</a>	The algorithm_version_id element identifies...
<a href="#">alias_name</a>	The alias_name element provides an alternative term or...
<a href="#">alt_along_track_footprint_size</a>	The alt_along_track_footprint_size element provides the...
<a href="#">alt_course_resolution</a>	The alt_course_resolution element provides the value of...
<a href="#">alt_cross_track_footprint_size</a>	The alt_cross_track_footprint_size element provides the...
<a href="#">alt_flag_group</a>	Additional flag fields (unused)...
<a href="#">alt_flag_group</a>	The ALT_FLAG_GROUP element identifies the following flag...
<a href="#">alt_footprint_latitude</a>	The alt_footprint_latitude (VDF06) element provides the...
<a href="#">alt_footprint_longitude</a>	The alt_footprint_longitude (VDF05) element provides the...
<a href="#">alt_footprints</a>	The footprints element provides the value of the number of...
<a href="#">alt_gain_factor</a>	The alt_gain_factor elements provide the values of the...
<a href="#">alt_particle_group</a>	The alt_particle_group of the alt_footprint_longitude...
<a href="#">alt_sky_factor</a>	The alt_sky_factor elements provide the values of the...
<a href="#">alt_spacescraft_position_vector</a>	The alt_spacescraft_position_vector element provides the...
<a href="#">alt_spacescraft_velocity_vector</a>	The alt_spacescraft_velocity_vector element provides the...

The screenshot shows the 'PDS Data Dictionary Lookup Detail' page for the 'alias\_name' element. It includes a search bar, a list of elements, and a detailed view of the 'alias\_name' element.

**Column Name = alias\_name**

**SQL Name = alias\_name**  
**Table Name = CHARACTER**  
**Data Type = CHARACTER**  
**Default = none**  
**SQL Value Type = VARCHAR2**  
**Minimum Column Value = 1&K**  
**Maximum Column Value = 1&K**  
**Minimum Length = 1&A**  
**Maximum Length = 1&A**  
**Default =**

**Change Date = 1993-07-02**  
**Status Type = APPROVED**  
**Source Name = PDS DDM Crdts**  
**SQL Format = CHARACTER**  
**SQL Format = char(255)**  
**Display Format = JUSTLEFT**  
**Std Val Output Flag = N**  
**Text Flag = N**  
**Available Value Type =**

**Description**  
 The alias\_name element provides an alternative term or identifier for a data element or object.  
 Note: In the PDS, values for alias\_name are accepted as input to the data system, but automatically changed into the approved term to which they relate.

**No Standard Values exist for this Element.**

**General Classification**  
 SYSTEM

**System Classification**  
 COMMON

**Object Name** Required  
 alias M

**No Aliases exist for this Element.**

**No Forbidden Rule exists for this Element.**

# A Few PDS Tools

- <http://pds.jpl.nasa.gov>
- Go to the Tools menu
- Click on Software Download
- **NASA View**
  - A useful tool for visualising labels and simple small data products
- **PDS Table Verifier**
  - A tool for reading tables and ensuring they are correctly formatted

**Planetary Data System**

Home Data Services **Tools** Documents Related Sites About PDS Sitemap

**Tools**

- Reference Lookup
- Data Dictionary Lookup
- Software Download
- Phone Book

**Platform Legend**

- Solaris
- Linux
- Windows
- Macintosh
- Cross-Platform
- Not available for download, please contact the PDS Operator

**PDS Software Download**

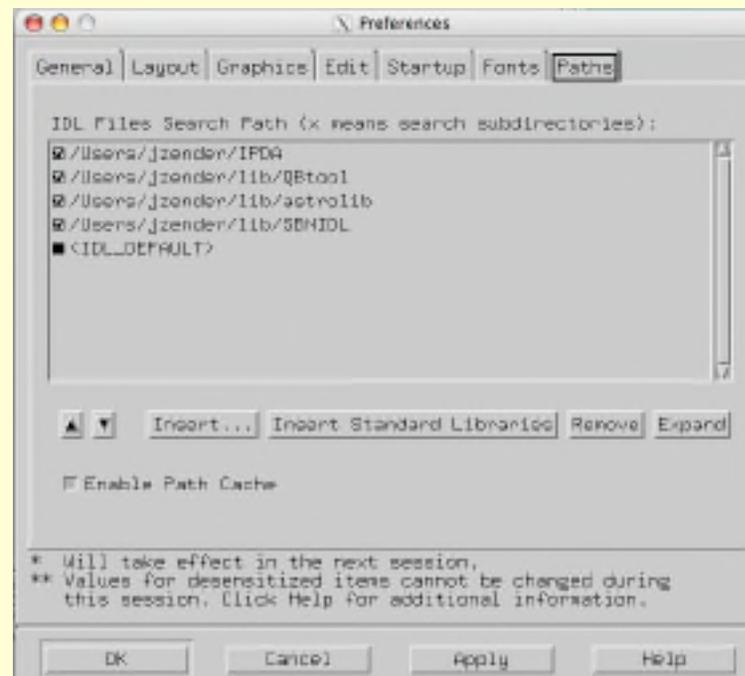
Welcome to the PDS Software Download tool. The default view is a list of all PDS softwares. You can sort by title, node, release date or file format (Download) by clicking on the column name. You can select an entry by clicking on the name which will present the details of the entry.

Title	Node	Release Date	Download
Label Formatter Version 1.0	EN	TBD	
Label Parser Version 2.1	EN	Oct-13-2005	
Line Analyzer Tool	EN	Mar-23-2006	
NASAView	EN	Mar-23-2006	
PDS Data Dictionary and Index Version 1.0b	EN	Apr-30-2007	
PDS Label Library	EN	Mar-23-2006	
PDS Label Library Light	EN	Mar-23-2006	
PDS Label Workflow	EN	Mar-23-2006	
PDS Make Index	EN	Mar-23-2006	
PDS ODLG Library	EN	Mar-23-2006	
PDS Object Access Library	EN	Mar-23-2006	
PDS Table Verifier	EN	Mar-23-2006	
PDS Table to Label Generator	EN	Mar-23-2006	
PDS Tools Package	EN	Mar-23-2006	
PDS Validator Tool	EN	May-07-2007	
PERL LABEL VALIDATION TOOL SUITE	EN	Mar-23-2006	
RING PROFILE LIBRARY Version 1.3	RING5	Apr-02-2004	



## SBN IDL

- **SBNIDL is an IDL package that is maintained and distributed by PDS's Small Bodies Nodes. It allows most PDS compliant products to be read in to the IDL software.**
- **To retrieve the latest fully tested release or previous releases, check out the page <http://pdssbn.astro.umd.edu/nodehtml/software.shtml>**
- **Within your IDLDE, select the File->Preferences and check that you path contains the SBNIDL.**





# Planetary Science Archive

## Users Quick Guide

### *Classical User Interface*

By J. Zender and D. J. Heather  
8 June 2007, Version 2.0

Step 1

- a) Open the PSA www home page at <http://www.rssd.esa.int/psa>
- b) Select “Classical User Interface” on your left or in the yellow box



Step 2

- a) You must click ‘Trust’ to accept the certificate and run the PSA applet.

Step 3

The “PSA Browser Start Page” will appear on your screen and will automatically start to load



# Login/Registering

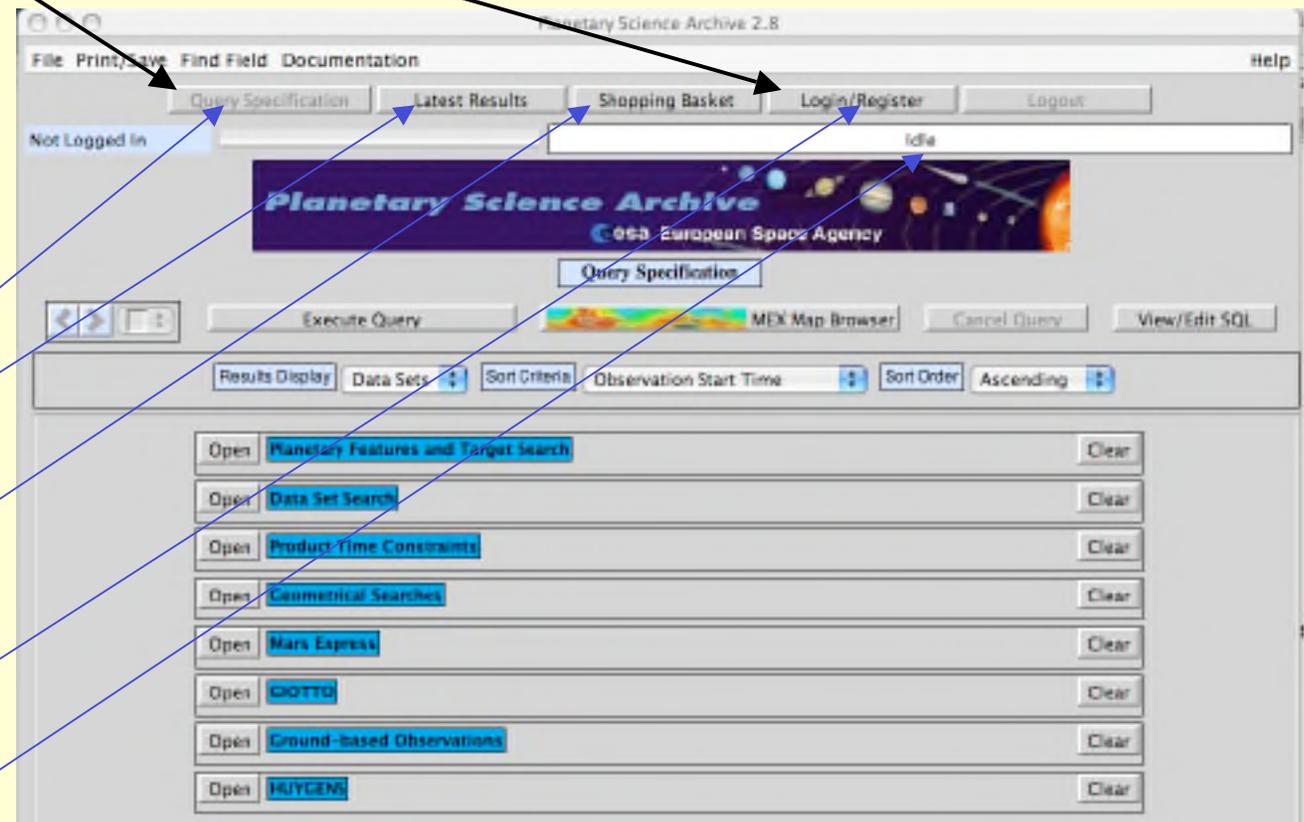
## Step 4

- a) Select the “Login/Register” View and login or request new user id.
- b) After having logged in, select the “Query Specification” View

The Planetary Science Archive (PSA) is structured in 5 different ‘views’,

- a) The “Query Specification” view, that allows you to define your query against the database
- b) The “Latest Result” view, that allows you to view the result of your previous query.
- c) The “Shopping Basket” view, that allows you to select your items of interest and order them later (free of charge).
- d) The “Login/Register”, that you should know by now (if not, please register to have the full functionality of the PSA)
- e) The “Request Monitor” view to monitor your requests

By clicking/selecting the individual views you can ‘walk around’ in the PSA.



# Define Your Query

## Step 3

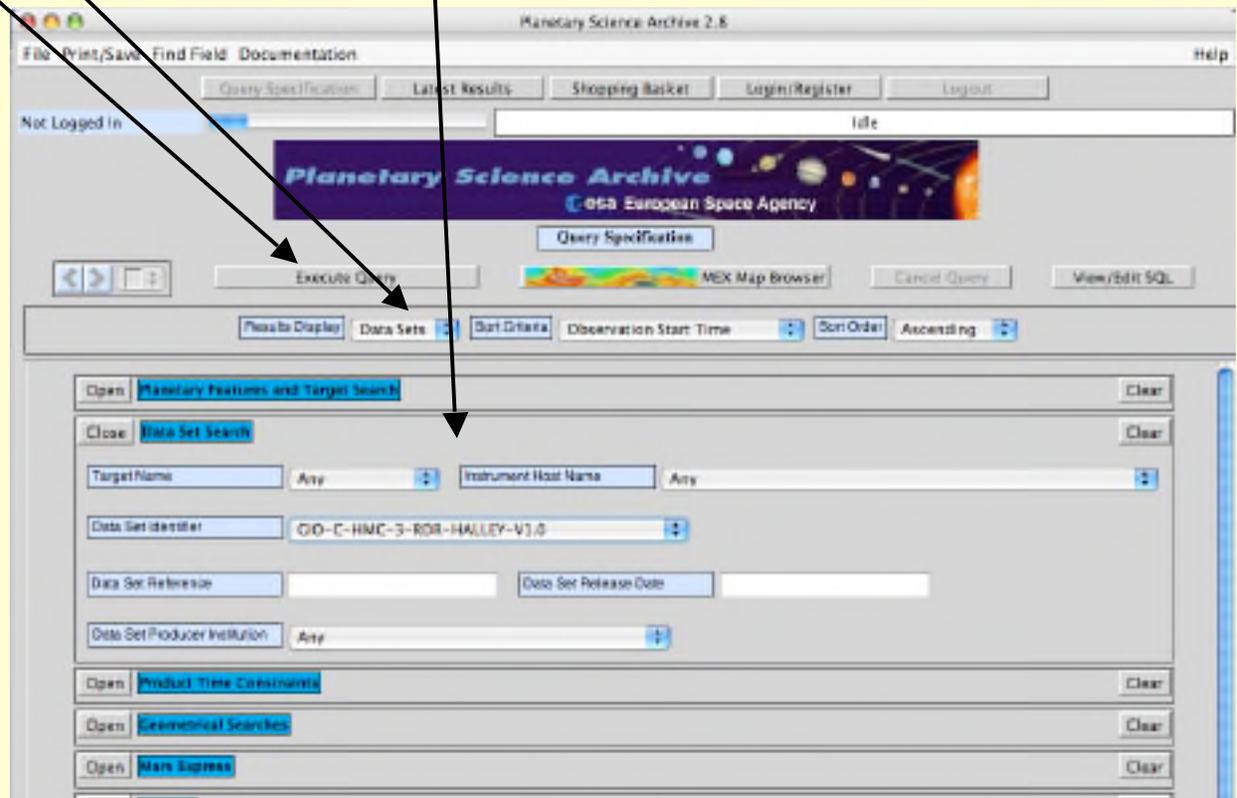
- Open a “Query Panel” and select your search criteria
- Select your “Result Display” view options
- Execute the query

Opening several “Query Panels” will logically-AND the constraints within the individual query panels.

Not opening any “Query Panel” will result in the display of all available datasets

The PSA contains data conform to the Planetary Data System Standard. A ‘Data Product’ is e.g. a PDS-labeled file containing an image. A ‘Data Set’ is a full directory hierarchy containing documentation, catalogues, indexes, data products and any other information.

In the “Result Display” view options, you can select to see Data Products, Data Sets or both in the “Result Panel”

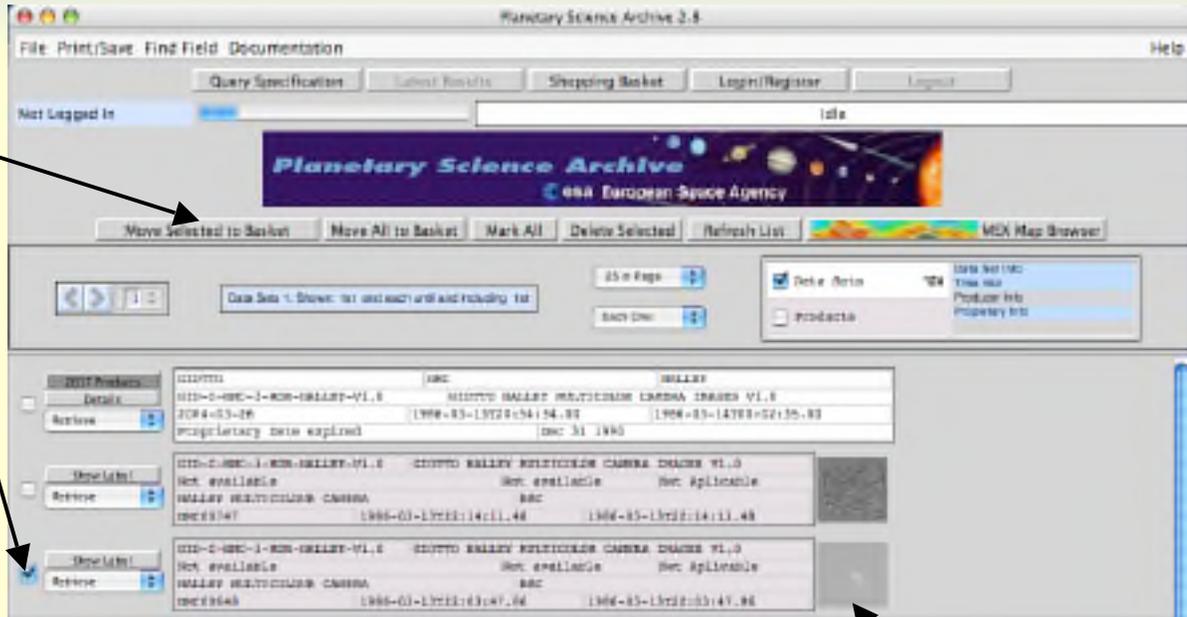




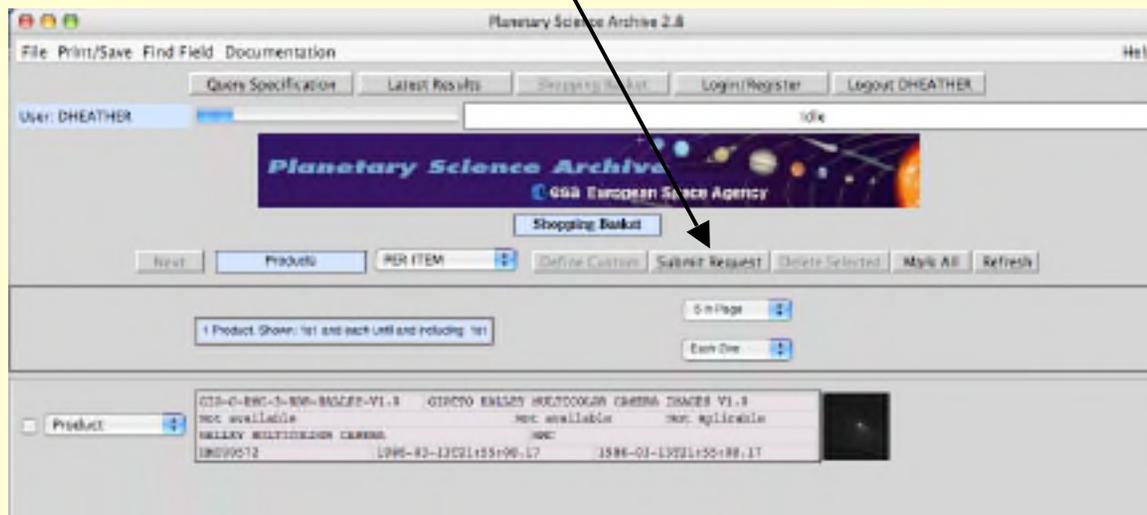
# Order via the Shopping Basket

## Step 5:

- 'mark' the Data Product that you want to download and move it to the basket
- You can then open the Shopping Basket window
- When you are happy with your selections, click on 'Submit Request'



To have a somewhat larger view of the data product, click on the icon and it will be displayed in a separate window.



# Downloading / Retrieving the Data

Step 6:

- 'select' your data packing option
- 'Confirm' and wait for an email that will inform you on the ftp retrieval of the data you have selected

Confirmation of Request Page

**Request Summary**

User ID	DHEATHER
Number of Items	1 Product
Estimated Total Product Size, Mb	0.29
FTP Download Time	Perform Estimation ----- Not Yet Calculated -----

**Tar Option**

- compressed tar (one file)
- zip (one file)
- tar (one file)
- no tar (files loose)

Confirm Abort

```

To: dheather@rssd.esa.int

Dear Planetary Science Archive User,

Your retrieval request has been successfully processed.

Please follow the instructions below to access/browse the
ftp area where your data is located:

ftp psa.ssac.esa.int
anonymous
<your email address as password>
prompt
cd /pub/dheather
binary
dir

Alternatively, you can also access your files directly from
your browser at:
ftp://psa.ssac.esa.int/pub/dheather/DHEATHER6231.zip
where you will be able to see some of the products on-line.

Your data will remain at this location for 7 days.

The Planetary Science Archive (PSA) can be accessed at
http://www.rssd.esa.int/psa

You can also get more information about the PSA project by
accessing the PSA web pages at the same address.

If you have any comments or questions, please contact the PSA HelpDesk
at the following email address:
psahelp@rssd.esa.int

Regards,
The PSA Team
  
```

Your email confirmation contains all you need to know to download the data within the next week from the PSA server.

# Planetary Science Archive

## Users Quick Guide

### *Map Based User Interface*

By J. Zender and D. J. Heather

08 June 2007, Version 1.1

- Step 1
- Open the PSA www home page at <http://www.rssd.esa.int/psa>
  - Select “Map-based User Interface” on your left or in the yellow box

- Step 2
- The “PSA Browser Start Page” will appear on your screen. Click ‘Start PSA Map’ to initiate the applet.

**Welcome to the Planetary Science Archive**

... data access via ...

<b>Dataset Browser Interface</b>	<b>Classical User Interface</b>	<b>Map-based User Interface</b>
User Guide	User Guide	User Guide

Notification Management User Guide

Please direct your comments to [our support desk](#).

**25 April 2007: Release of data from the Huygens Data Trajectory Working Group (DTWG)**

**Announcement of the Mars Express Data Workshops**

11-15 June 2007: HRSC & OMEGA, ESAC, Villafraanca del Castillo (Madrid, Spain)  
 1-5 October 2007: ASPERA, IRS, SPICAM ESAC, Villafraanca del Castillo (Madrid, Spain)  
 For more information and registration, please contact the workshop pages.

Announcements		History (2004, 2005)	
Apr 2007	Next data deliveries for ASPERA (MPI and ELS) instrument on Mars Express. (in progress)	27 Apr 2007	Cassini-Huygens: release of the data from the Huygens Data Trajectory Working Group (DTWG)
Apr 2007	Next data deliveries for SPICAM on Mars Express.	27 March 2007	Cassini-Huygens: release of the Huygens Surface Science Package (SSP) data
Dec1998-Feb-2007	Rosetta, Peer Review of first data ingestion	7 Feb 2007	OMEGA data update up to orbit 1899

**PSA version 2.8**

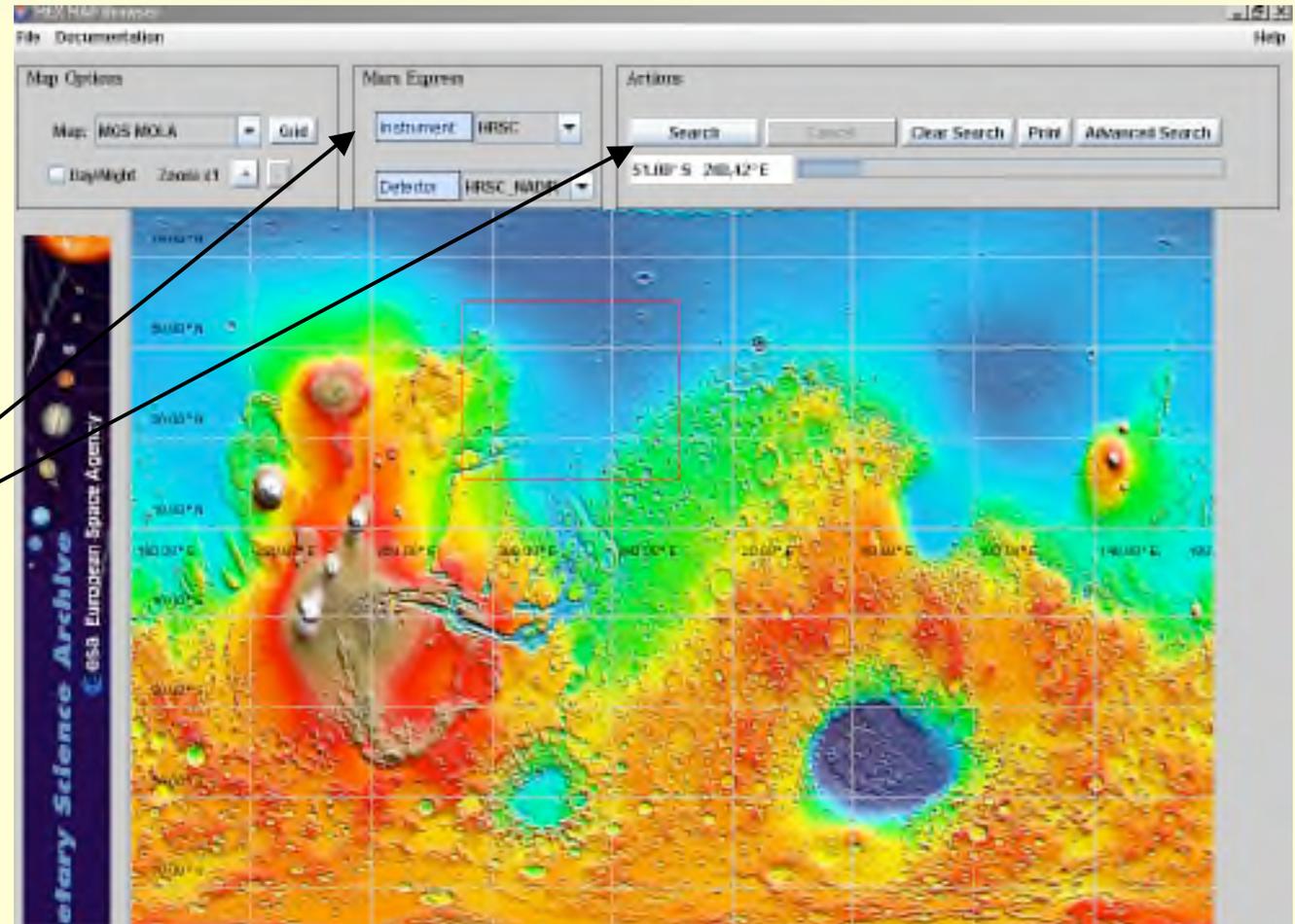
Start PSA MAP

Set to launch applet: (URL:Default)

(Click the Full list of options for running the PSA)

Please note: Closing of the window will terminate the PSA browser and work may be lost.

Send your questions about the Planetary Science Archive to [PSA Helpdesk](#)

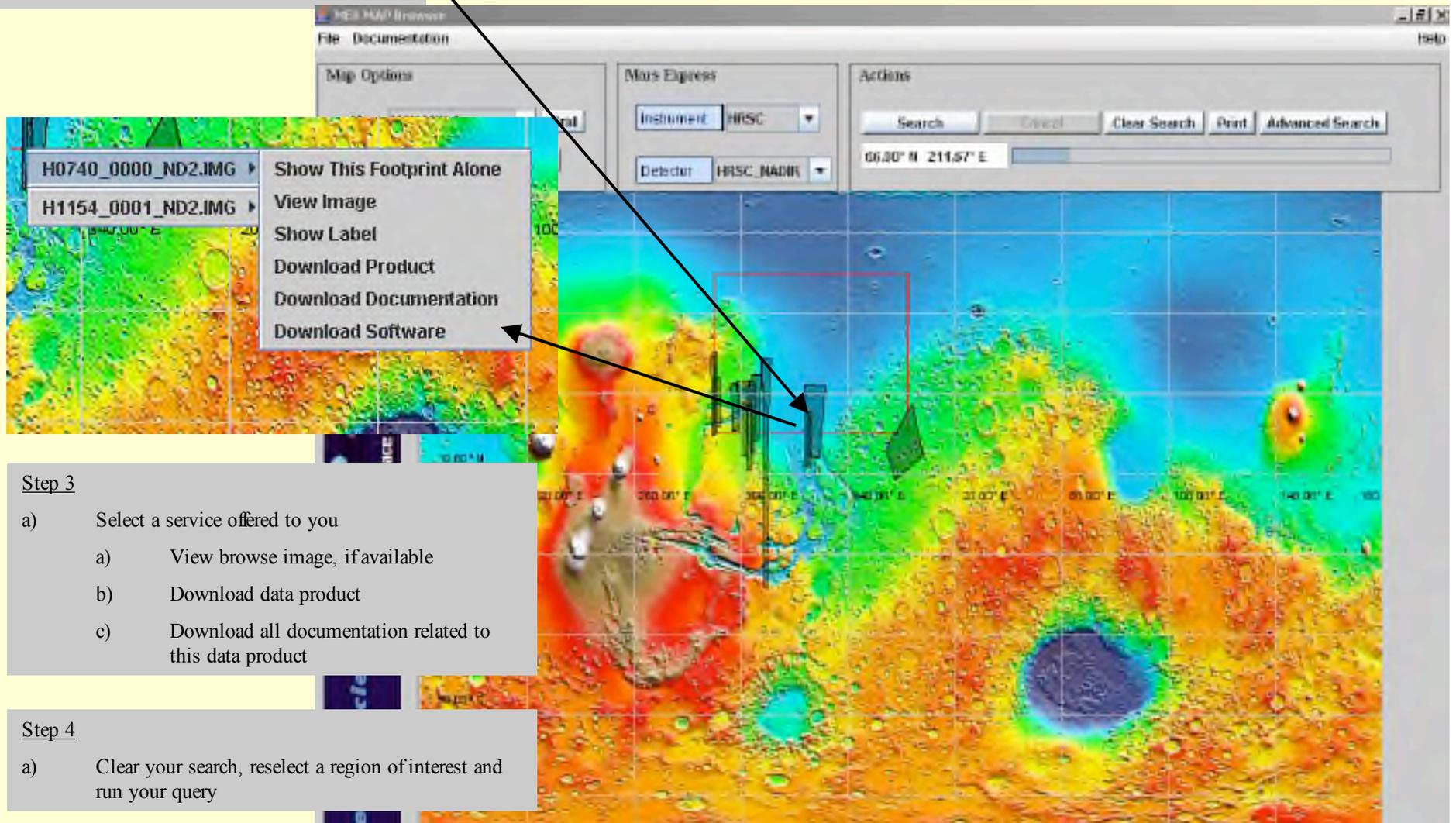


Step 1

- a) Define a Region of Interest (ROI) by marking an area on the map with your mouse.
- b) A red-colored rectangle will be visualize your ROI
- c) Select your Instrument of choice and, if required, an instrument detector
- d) Execute the query

Step 2

- a) Analyze the footprint resulting from your query
- b) Select a footprint by moving the mouse over it and pressing a mouse button



Step 3

- a) Select a service offered to you
  - a) View browse image, if available
  - b) Download data product
  - c) Download all documentation related to this data product

Step 4

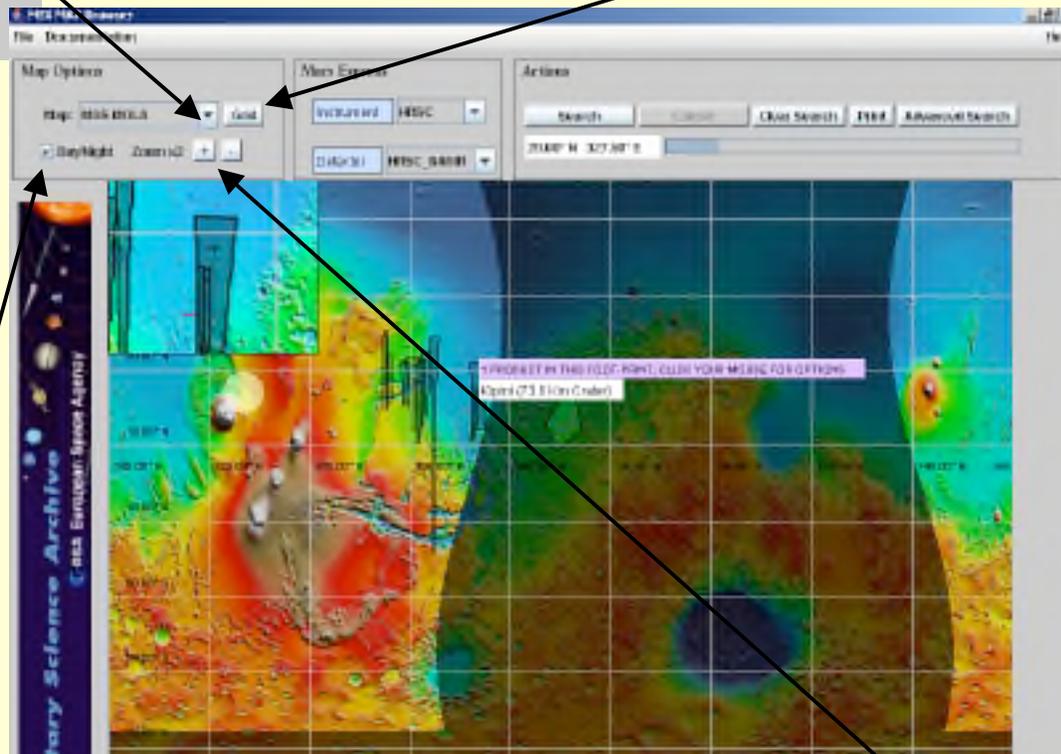
- a) Clear your search, reselect a region of interest and run your query

# Options

## Option 1: Background map

- Select between several background maps
- Load an own map via the FILE entry of the Main Menu.

Option 4: visualize a grid on top of your background image



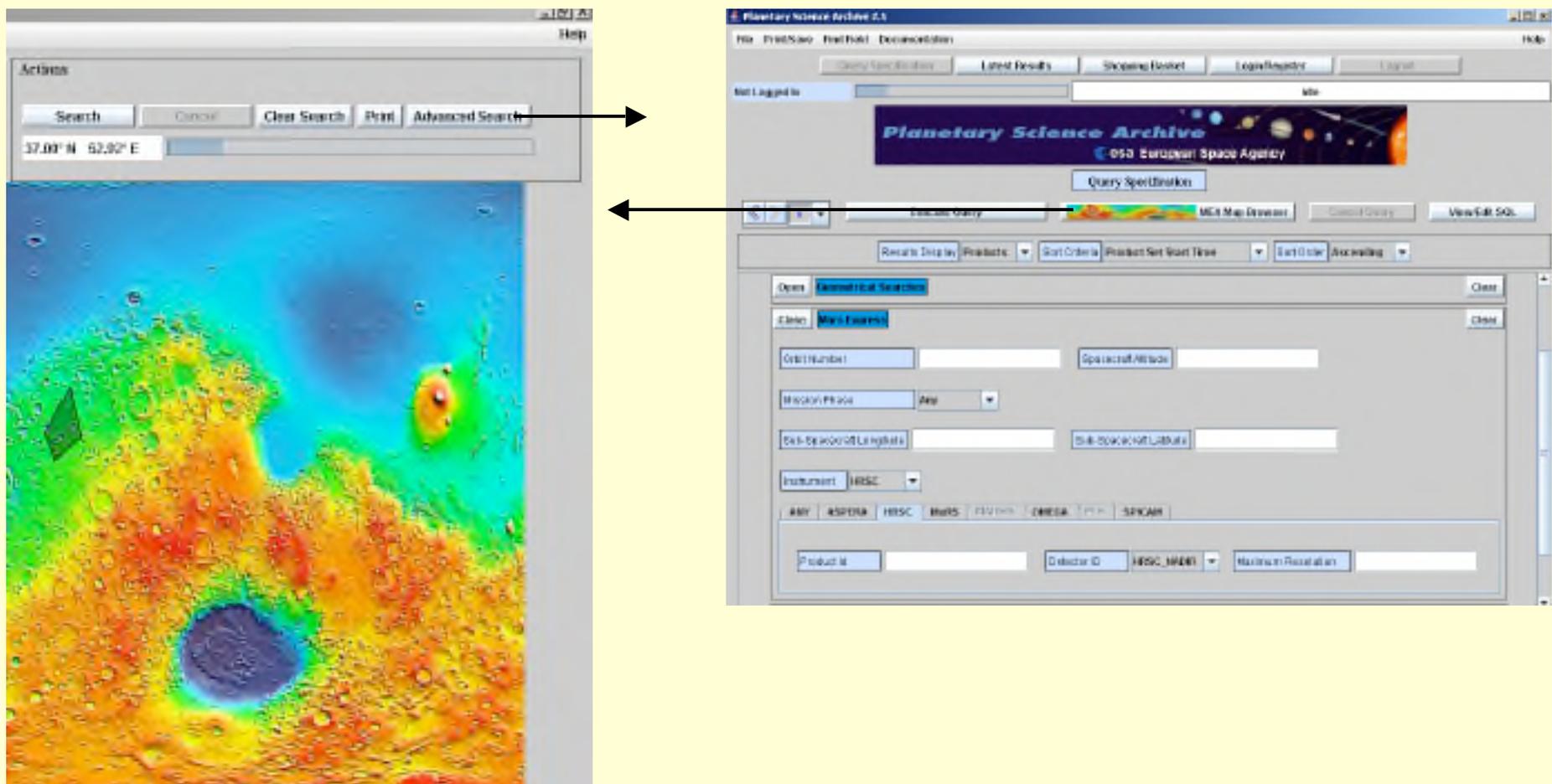
Option 2: visualize day night boundary and the intersection of the Sun to the center of Mars.

Option 3: display a zoom window that allows you to better select individual data products

## Map-based Interface vs Advanced Interface

Switch between the map-based interface to the advanced interface of the PSA and vice versa.

The results you receive from your queries from within the advanced interface are taken over to the map-based interface and displayed there in case of Mars data for which geometry information is existing (HRSC, OMEGA) is available. This gives you the full flexibility of the advanced interface coupled to the visual power of the map-based concept.



# Planetary Science Archive

## Users Quick Guide

### *PSA Data Set Browser Interface*

By J. Zender and D. J. Heather  
08 June 2007, Version 1.1

## Overview

- **Direct Browsing of Datasets**
- **Data Downloads**
- **Accessing the PSA archive with an FTP-client**
- **Automatic Download Scripts / Mirror Scripts**
- **Your Comments**

Step 1

- a) Open the PSA www home page at <http://www.rssd.esa.int/psa>
- b) Select “Data set Browser Interface” on your left or in the yellow box

The screenshot shows the Planetary Science Archive website. The left sidebar contains a menu with the following items: Data Access, Services and Help, Mission Related, Restricted Items, Restricted Access Login, and Restricted Search (Guest). The 'Data Access' section is expanded, showing links for 'Dataset Browser Interface', 'Classical User Interface', and 'Map-based User Interface'. The main content area features a large heading 'Welcome to the Planetary Science Archive' and a yellow box containing three buttons: 'Dataset Browser Interface', 'Classical User Interface', and 'Map-based User Interface', each with a corresponding 'User Guide' link below it. A blue banner at the bottom of the page contains several announcements, including the release of data from the Huygens Data Trajectory Working Group (DTWG) on 25 April 2007 and the announcement of the Mars Express Data Workshops from 11-15 June 2007. At the bottom, there are two tables: 'Announcements' and 'History (2004, 2005)'.

Announcements	
Apr 2007	Next data deliveries for ASPERA (NPI and ELS) instrument on Mars Express. (in progress)
Apr 2007	Next data deliveries for SPICAM on Mars Express.
Dec/05-Feb-2007	Rosetta, Peer Review of first data submission.

History (2004, 2005)	
20 Apr 2007	Cassini-Huygens: release of the data from the Huygens Data Trajectory Working Group (DTWG)
20 March 2007	Cassini-Huygens: release of the Huygens Surface Science Package (SSP) data
7 Feb 2007	OMEGA data update up to orbit 1899

# Direct Browsing of Datasets

- From the Dataset Browser entry page, select the instrument of interest.
- Only public datasets are available through this interface! So you will not find
  - Datasets before public release
  - Datasets in Peer Review

Welcome to the

## Planetary Science Archive Dataset Browser

The Dataset Browser offers experienced archive users the possibility to access the full dataset information in a quick and straightforward way. The datasets are accessed using the ftp protocol, it must however be noted that the PSA is not based on the typically known ftp servers. This will be transparent to most users. When using this service for batch download or as a mirror functionality, we would appreciate to get a quick note to [our support desk](#), to avoid performance problems that could affect other users. Only public available datasets will be accessible via this service.

You can directly access data from:

- Mars Express [\(please read and follow acknowledgement note\)](#)
  - [ASPERA3](#), Analyser of Space Plasmas and Energetic Atoms (PI: R. Lundin, IRF)
  - [HRSC](#), High/Super Resolution Stereo Camera (PI: G. Neukum, Freie Universität Berlin)
  - [OMEGA](#), Observatoire pour la Microbiologie, l'Eau, les Glaces et l'Activité (PI: J-P. Bibring, IAS Paris)
  - [SPICAM](#), Spectroscopy for Investigation of Characteristics of the Atmosphere of Mars (PI: J-L. Bertaux, Service d'Aéronomie/CNRS)
  - [MaRS](#), Mars Express Radio Science (PI: M. Pätzold, University of Cologne)
- Huygens [\(please read and follow acknowledgement note\)](#)
  - [DISR](#), Descent Imager Spectral Radiometer (PI: M. Tomasko, University of Arizona)
  - [DWE](#), Doppler Wind Experiment (PI: M. Bird, University of Bonn)
  - [GCMS](#), Gas Chromatograph Mass Spectrometer (PI: H. Niemann, NASA/GSFC)
  - [SSP](#), Surface Science Package (PI: J. Zarnecki, UK Open University)
  - [ACP](#), Aerosol Collector and Pyrolyzer (PI: G. Israel, Service d'Aéronomie/CNRS)
  - [HASI](#), Huygens Atmospheric Structure Instrument (PI: M. Fuchignoni, Observatory Paris-Meudon)
  - [Huygens Housekeeping Data](#) (ESOC/ESTEC, O. Witasse)
- Giotto
  - [DID](#), Dust Impact Detector System (PI: J.A.M. McDonnell)
  - [EPA](#), Energetic Particle Analyser
  - [GRE](#), Radio Science Experiment (PI: P. Edenhofer)



# Data Download

- **When using a web browser, please insure to use an appropriate method to download your data,**
  - E.g. in MOZILLA the ‘Save Link Target As...’
- **Be aware that you download only the file selected,**
  - ...
  - Detached label files (e.g. LBL and DAT) need to be both downloaded to get the full data product!
  - Any linked files, .e.g. ^DESCRIPTION = “INSTRUMENT.PDF” will not be attached to the downloaded file!



## Accessing the PSA archive with an FTP-client

- You will be able to connect to the PSA archive with any ftp client, e.g. ncftp, ftp, fuqu, etc
  - Using <ftp://psa.esac.esa.int/pub/mirror>
  - Or directly the mission related subpage <ftp://psa.esac.esa.int/pub/mirror/MARS-EXPRESS>

## Automatic Download Scripts / Mirror Scripts

- You can use any automatic download script (mirror, etc) to recursively download the data on the PSA.
- Before installing a regular download scheme on your side (mirror, etc), please inform us by sending a short note to [psahelp@rssd.esa.int](mailto:psahelp@rssd.esa.int). We will keep an eye on the load of network and server such that other users are not disturbed. In such cases, we will contact you and propose alternative time periods and options to download the data you are interested in.
- Be aware that the files that you see in your www-browser or your ftp-client are not the physical files, but a link into the PSA database system. When downloading data, the PSA server resolves the link on the fly and delivers the data back to you.
- When building mirror scripts, you can compare your data items against size or time with the ones on the PSA server.

Be careful when using automatic downloads, as the size of the datasets can be huge (several 100GBytes or larger)! Please contact the PSA Helpdesk beforehand.

# Planetary Science Archive

## Users Quick Guide

### Notification Management

By J. Zender and D. J. Heather  
08 June 2007, Version 1.1

## Overview

- **Registration**
- **Notification Rules**
- **Notification via Email**
- **Comments and Suggestions**

# Registration I

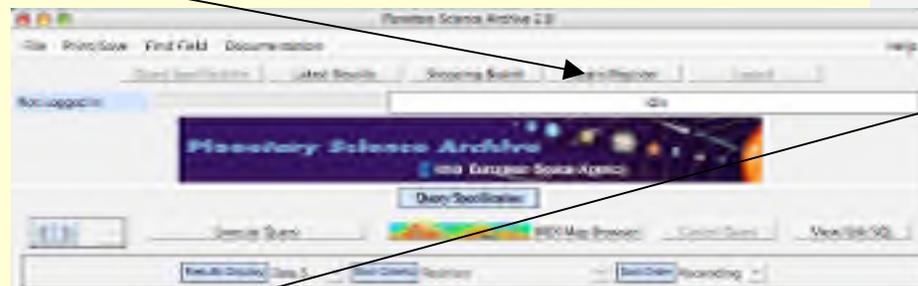
1. Goto Login Page



2. Login with your user id / password



3. Goto Login Page



4. Select 'Change Notification Setting'

# Registration II

**Select                      Add**

**View                      Return**

**Dismiss**

**Planetary Science Archive**  
 esa European Space Agency

**Change Notification Setting**

Mission: INTERNATIONAL ROSETTA MISSION  
 Instrument Host: All  
 Instrument: All

**Add**

Notification List:

Mission	Instrument Host	Instrument
MARS EXPRESS	MEX	HRSC
CASSINI-HUYGENS	HP	All
INTERNATIONAL ROSETT...	All	All

**Delete**

**Dismiss**

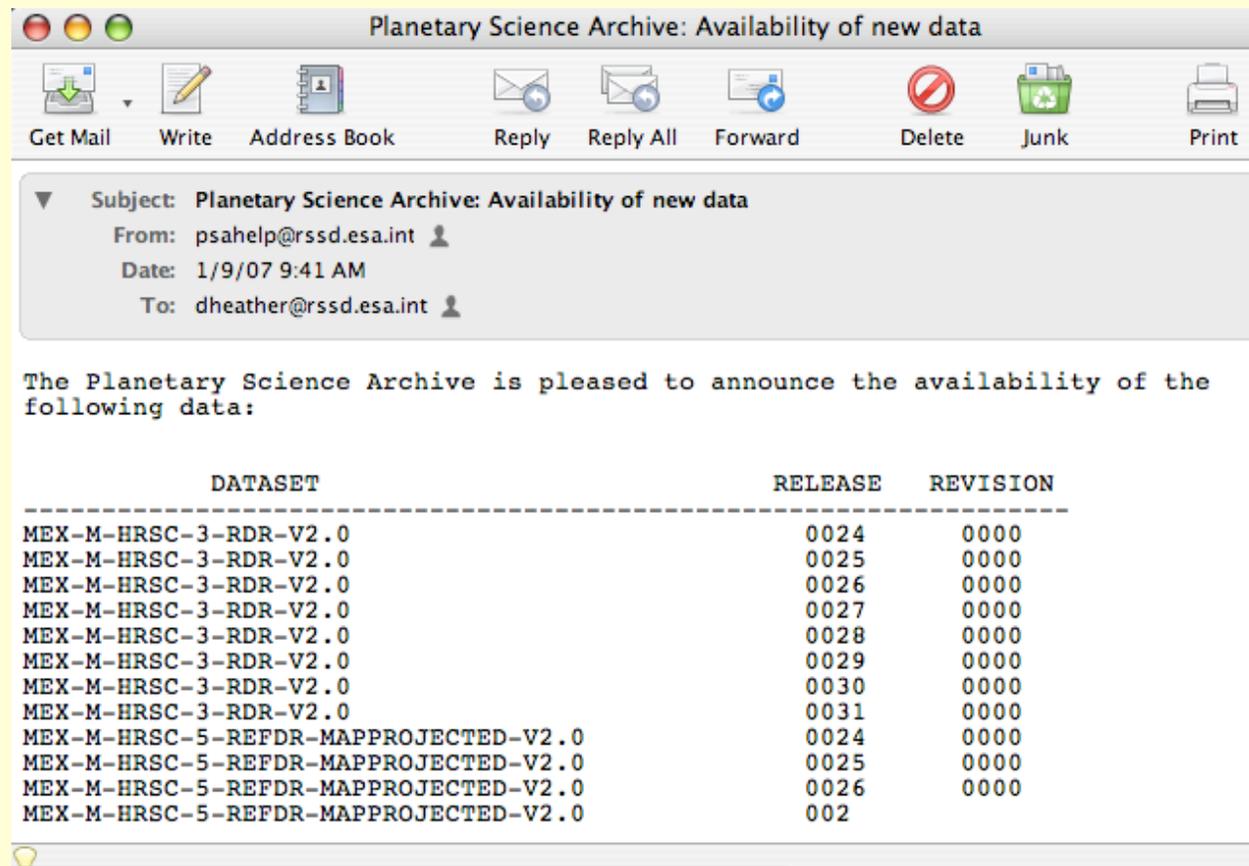
# Notification Rules

- **Notification will be done shortly after**
  - A new dataset was ingested into the archive
  - A new dataset release was ingested into the archive
  - The ERRATA.TXT was modified, in other words an important piece of information about the dataset was made available.
- **Notification will be done using email service**
  - Ensure that your PSA account setting, especially your email address is correct
- **You will be informed on the following changes:**

Mission	Instrument Host (Spacecraft)	Instrument	Notification
ALL	ALL	ALL	You will be informed on any change in the archive.
SPECIFIC	ALL	ALL	You will be informed an any change relating to data for a specific mission.
SPECIFIC	SPECIFIC	ALL	You will be informed on any change relating to data obtained from a specific spacecraft.
SPECIFIC	SPECIFIC	SPECIFIC	You will be informed on any change relating to a specific instrument.

# Notification via Email

Once you have registered, you will receive e-mails with announcements of the new data in the archive that you are interested in.



Planetary Science Archive: Availability of new data

Get Mail Write Address Book Reply Reply All Forward Delete Junk Print

▼ Subject: Planetary Science Archive: Availability of new data  
 From: psahelp@rssd.esa.int  
 Date: 1/9/07 9:41 AM  
 To: dheather@rssd.esa.int

The Planetary Science Archive is pleased to announce the availability of the following data:

DATASET	RELEASE	REVISION
MEX-M-HRSC-3-RDR-V2.0	0024	0000
MEX-M-HRSC-3-RDR-V2.0	0025	0000
MEX-M-HRSC-3-RDR-V2.0	0026	0000
MEX-M-HRSC-3-RDR-V2.0	0027	0000
MEX-M-HRSC-3-RDR-V2.0	0028	0000
MEX-M-HRSC-3-RDR-V2.0	0029	0000
MEX-M-HRSC-3-RDR-V2.0	0030	0000
MEX-M-HRSC-3-RDR-V2.0	0031	0000
MEX-M-HRSC-5-REFDR-MAPPROJECTED-V2.0	0024	0000
MEX-M-HRSC-5-REFDR-MAPPROJECTED-V2.0	0025	0000
MEX-M-HRSC-5-REFDR-MAPPROJECTED-V2.0	0026	0000
MEX-M-HRSC-5-REFDR-MAPPROJECTED-V2.0	002	

## Comments and Suggestions

- Please send us your remarks [psahelp@rssd.esa.int](mailto:psahelp@rssd.esa.int)
- In case of problems, please visit the FAQ page before contacting us
- In case you can not find the data you are looking for, please read the Mission Specific pages on the PSA home page (<http://www.rssd.esa.int/psa>)