

## ODE Beta Tutorial - Using the ODE map interface from the product search page

This tutorial will demonstrate how to:

- Search for products intersecting an area of interest through the ODE product search page
- View the search results in the map interface
- Narrow the PDS product selection through the map interface
- Download the PDS products

### 1. Go to the Orbital Data Explorer version 3.0 home page.

- a. <http://odestage.rsl.wustl.edu/mars>










**Mars Orbital Data Explorer**  
**Beta Site - ODE v3.0**

*PDS Geosciences Node*  
*Washington University in St. Louis*

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**WELCOME TO THE MARS ORBITAL DATA EXPLORER - BETA V3.0**

The **PDS Geosciences Node Mars Orbital Data Explorer (ODE) - Beta v3.0** provides search, display, and download tools for the PDS science data archives and other data sets from the Mars Reconnaissance Orbiter (MRO), the Mars Global Surveyor, and the European Space Agency's Mars Express missions. ODE also includes selected non-PDS data contributed by the science community to support landing site selection. **Choose one of the above tabs to start using ODE.**

 <b>Data Product Search</b> Search for orbital science products across missions, instruments, and data sets via time, location, and product ids.	 <b>What's New</b> See what's new with ODE
 <b>Additional Tools</b> <ul style="list-style-type: none"><li>• <a href="#">MRO Coordinated Observations</a></li><li>• <a href="#">MOLA PEDR Query</a></li><li>• <a href="#">Product Type Coverage</a></li></ul>	 <b>Help &amp; Resources</b> Access the ODE help, find additional resources, and see what's coming
 <b>Data Set Browser</b> Browse through the orbital data set files stored in the PDS archives	 <b>Available Data Sets</b> A full list of mission, instrument, and product types available in Mars ODE
 <b>Download Cart</b> Download products added to the cart from the product search	 <b>Lunar ODE</b>  <b>Mercury ODE</b>

The Mars Orbital Data Explorer is produced by the [PDS Geosciences Node](#) at Washington University in St. Louis. Send comments to [odewebmaster@wunder.wustl.edu](mailto:odewebmaster@wunder.wustl.edu).

## 2. Select Data Product Search tab



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### DATA PRODUCT SEARCH Reset Form ?

Planetary science data stored in PDS is organized by [data products](#) and [data sets](#). A data set is a collection of related data products, usually products acquired by a particular instrument and processed in a certain way. The data set also includes all documentation and supporting materials needed to understand and use the data products. A data product is a set of measurements resulting from a science observation, usually products acquired by a particular instrument and processed in a certain way.

#### STEP 1. SELECT DATA SETS TO SEARCH (A SELECTION IS REQUIRED) ?

<input checked="" type="checkbox"/> <b>Select One or More Desired Data Sets (Released PDS Archives)</b>	(Show Options - 0 Parameters Set)
<input checked="" type="checkbox"/> <b>Select Any Desired Special Product Data Sets (Non-PDS)</b> <i>New Option</i>	(Show Options - 0 Parameters Set)

#### STEP 2. SET ADDITIONAL FILTERING PARAMETERS (OPTIONAL)

<input checked="" type="checkbox"/> <b>Select a Product ID or filter by a partial Product ID</b>	(Show Options - 0 Parameters Set)
<input checked="" type="checkbox"/> <b>Filter by Existing and Proposed Landing Sites</b> <i>New Option</i>	(Show Options - 0 Parameters Set)
<input checked="" type="checkbox"/> <b>Find by Product Location</b>	(Show Options - 0 Parameters Set)
<input checked="" type="checkbox"/> <b>Filter by Time Range</b>	(Show Options - 0 Parameters Set)

#### STEP 3. PREVIEW SEARCH RESULTS SUMMARY (OPTIONAL)

[Preview Search Results Summary](#)

#### STEP 4. SUBMIT QUERY

**A selection must be made in Step 1 to submit a query.**

[View Results in Table](#) [Select Results on Map Display](#)

Display Product Thumbnails on search results page

## 3. Set the Desired Search Criteria.

Expand the “Select One or More Desired Data Sets (Released PDS Archives)” section. Select the check boxes for **CRISM Targeted TRDRs & DDRs (FRT, HRL, HRS) center swath only I/F & DDRs** and **HIRISE DTM** (Digital Terrain Model). This will filter the search results to only these selected data sets.

**STEP 1. SELECT DATA SETS TO SEARCH (A SELECTION IS REQUIRED)** ?

**Select One or More Desired Data Sets (Released PDS Archives)** (Hide Options - 2 Parameters Set)

Map location data is available for these products.  
 Observation time data is available for these products.

**Mars Reconnaissance Orbiter**

CRISM - Compact Reconnaissance Imaging Spectrometer for Mars Other Product Types

[CRISM Product Primer](#)

**TRDR & DDR - Targeted Reduced Data Record & associated Derived Data Record**

Targeted TRDRs & DDRs (FRT, HRL, HRS) [Data Set Description](#)  
 Targeted TRDRs & DDRs (FRT, HRL, HRS), center swath only I/F & DDRs [Data Set Description](#)  
 Multispectral TRDRs & DDRs (MSP, MSW) [Data Set Description](#)  
 EPF and TOD TRDRs & DDRs [Data Set Description](#)  
 All TRDRs & DDRs [Data Set Description](#)  
 MRDR - Multispectral Reduced Data Record [Data Set Description](#)

CTX - Context Camera

EDR - Experimental Data Record [Data Set Description](#)

HIRISE - High-Resolution Imaging Science Experiment Other Product Types

ANAGLY - Anaglyph Image [Data Set Description](#)  
 DTM - Digital Terrain Model [Data Set Description](#)  
 RDR - Reduced Data Record - Combined and Processed Images [Data Set Description](#)

Next, expand the “Find by Product Location” section. Set the feature type to “Rovers and Landers”, and set the feature name to “MER Spirit Rover Landing Site”. The extent of the feature will automatically populate the maximum and minimum latitude and longitude text boxes. The search results will be limited to the specified CRISM and HIRISE PDS products that intersect these coordinates.

**Find by Product Location** (Hide Options - 4 Parameters Set)

**Select a Specific Feature**  
 A selected feature's Latitude and Longitude bounding box will be used for search criteria.

**Feature Type:**   
**Feature Name:**  [Full Feature Name List](#)

**OR**

**Directly specify a Latitude and Longitude coverage area**  
 Mars ODE uses [areocentric coordinates](#) that are based on the product's center latitude and longitude. ?

**Max Latitude**  
(-90 to 90)

**Western most Longitude**  
(0 to 360)

**Eastern most Longitude**  
(0 to 360)

**Min Latitude**  
(-90 to 90)

**Selected Search Area**

180° 270° 0° 90° 180°  
90° 0° -90°  
180° 270° 0° 90° 180°

Click the “Preview Search Results Summary” button to view the search results summary.

**STEP 3. PREVIEW SEARCH RESULTS SUMMARY (OPTIONAL)**

**Preview Search Results Summary**

<b>Product Type</b>	<b>Search Results Count</b>
MRO CRISM DDR	26
MRO CRISM TRDR	26
MRO HIRISE DTM	5
<b>Total Products Found</b>	<b>57</b>

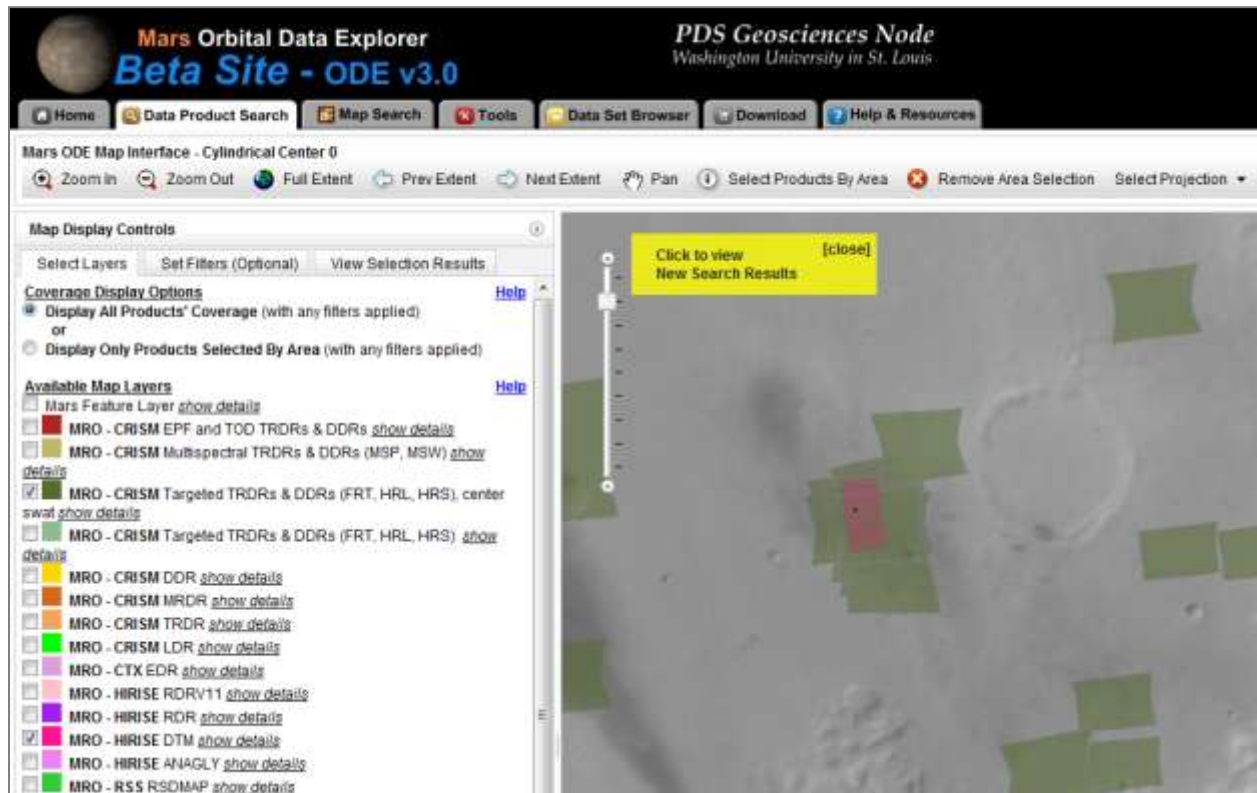
We are content with the results, so we will click the “Select Results on Map Display” button. This will load the map search page with the criteria that was set on the product search page. It will also zoom to the specified area of interest.

**STEP 4. SUBMIT QUERY**

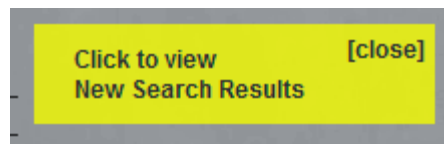
**View Results in Table**   **Select Results on Map Display**

Display Product Thumbnails on search results page

#### 4. View Search Results on the Map



Click the yellow pop up box to view a search result list through the map interface.



The search result summary and detail list are then displayed.

**Map Display Controls**

Select Layers | Set Filters (Optional) | View Selection Results






**SELECTION RESULTS SUMMARY**

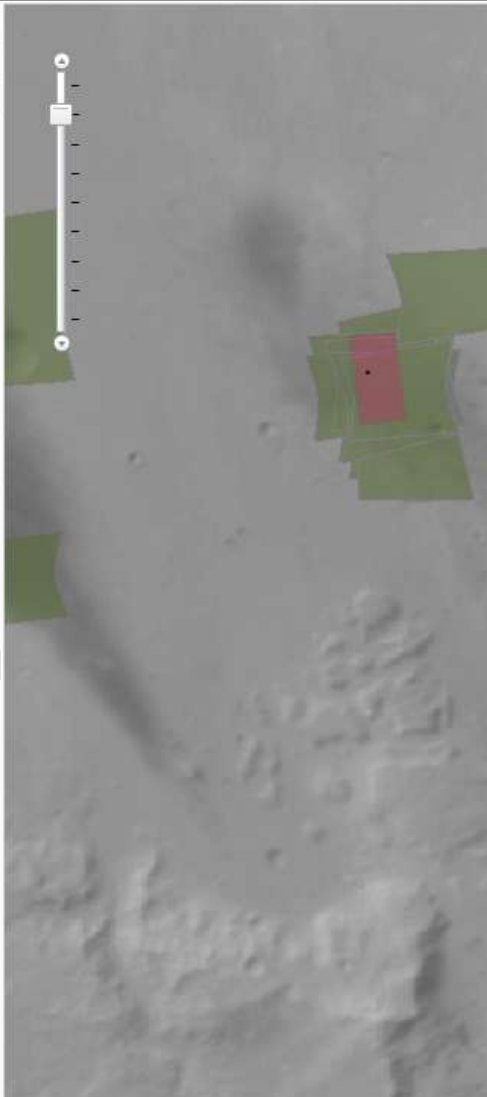
Product Type	Search Results Count
MRO CRISM TRDR	52
MRO HIRISE DTM	5
<b>Total Products Found</b>	<b>57</b>

**SELECTION RESULTS LIST** Output Results ?

Products Found: 57  
 Display Product Thumbnails

View in Table  
Add All Results to Cart  
Update Cart

Instrument	Product ID	
MRO CRISM TRDR	 <a href="#">FRT00003192_07_IF165L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	 <a href="#">FRT00003192_07_IF165S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT00003192_07_RA165L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT00003192_07_RA165S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	 <a href="#">FRT000035D0_07_IF164L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	 <a href="#">FRT000035D0_07_IF164S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_RA164L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_RA164S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	 <a href="#">FRT0000553B_07_IF164L_TRR2</a>	<input type="checkbox"/>



5. **Adding selected products to the download cart.**

Scroll through the list of PDS products and check the boxes next to some desired data products. Include at least one HIRISE DTM from the bottom of the list. Then click the “Update Cart” button. This action has added the selected products to your download cart request.

The screenshot shows a web interface for map display controls. On the left is a panel titled "Map Display Controls" with tabs for "Select Layers", "Set Filters (Optional)", and "View Selection Results". Below the tabs is a "SELECTION RESULTS SUMMARY" table:

Product Type	Search Results Count
MRO CRISM TRDR	52
MRO HIRISE DTM	5
<b>Total Products Found</b>	<b>57</b>

Below the summary is a "SELECTION RESULTS LIST" section. It includes a "Products Found: 57" label, a checked checkbox for "Display Product Thumbnails", and several buttons: "Output Results" (with a help icon), "View in Table", "Add All Results to Cart", and "Update Cart".

The main part of the interface is a table of product listings. Each row includes an "Instrument" (all are MRO CRISM TRDR), a "Product ID" (with a thumbnail icon and a link), and a checkbox. Two rows have their checkboxes checked and are labeled "In Cart".

Instrument	Product ID	
MRO CRISM TRDR	<a href="#">FRT00003192_07_IF165L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT00003192_07_IF165S_TRR2</a>	<input checked="" type="checkbox"/> <i>In Cart</i>
MRO CRISM TRDR	<a href="#">FRT00003192_07_RA165L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT00003192_07_RA165S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_IF164L_TRR2</a>	<input checked="" type="checkbox"/> <i>In Cart</i>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_IF164S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_RA164L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_RA164S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT0000553B_07_IF164L_TRR2</a>	<input type="checkbox"/>

On the right side of the interface is a map view showing a grayscale terrain image with several green and red rectangular overlays. A vertical scale bar is visible on the left side of the map.

## 6. View additional data set coverage.

Select the MRO –CTX EDR layer in the list of available map layers.

**Map Display Controls**

Select Layers | Set Filters (Optional) | View Selection Results

**Coverage Display Options** [Help](#)

Display All Products' Coverage (with any filters applied)  
or  
 Display Only Products Selected By Area (with any filters applied)

**Available Map Layers** [Help](#)

- Mars Feature Layer [show details](#)
- MRO - CRISM EPF and TOD TRDRs & DDRs [show details](#)
- MRO - CRISM Multispectral TRDRs & DDRs (MSP, MSW) [show details](#)
- MRO - CRISM Targeted TRDRs & DDRs (FRT, HRL, HRS), center swat [show details](#)
- MRO - CRISM Targeted TRDRs & DDRs (FRT, HRL, HRS) [show details](#)
- MRO - CRISM DDR [show details](#)
- MRO - CRISM MRDR [show details](#)
- MRO - CRISM TRDR [show details](#)
- MRO - CRISM LDR [show details](#)
- MRO - CTX EDR [show details](#)

The map will update to display the additional CTX EDR coverage. The selection results have also been updated with the CTX EDRs that intersect the MER Spirit land site.

**Map Display Controls**

Select Layers | Set Filters (Optional) | View Selection Results

**SELECTION RESULTS SUMMARY**

Product Type	Search Results Count
MRO CRISM TRDR	52
MRO CTX EDR	30
MRO HIRISE DTM	5
<b>Total Products Found</b>	<b>87</b>

**SELECTION RESULTS LIST** [Output Results ?](#)

[View in Table](#)

[Add All Results to Cart](#)

[Update Cart](#)

Products Found: 87  
 Display Product Thumbnails

Instrument	Product ID	
MRO CRISM TRDR	<a href="#">FRT00003192_07_IF165L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT00003192_07_IF165S_TRR2</a>	<input checked="" type="checkbox"/> In Cart
MRO CRISM TRDR	<a href="#">FRT00003192_07_RA165L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT00003192_07_RA165S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_IF164L_TRR2</a>	<input checked="" type="checkbox"/> In Cart
MRO CRISM TRDR	<a href="#">FRT000035D0_07_IF164S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_RA164L_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT000035D0_07_RA164S_TRR2</a>	<input type="checkbox"/>
MRO CRISM TRDR	<a href="#">FRT0000553B_07_IF164L_TRR2</a>	<input type="checkbox"/>



Add one of the CTX data products to the download cart. Scroll down the list and select the desired product's check box. Then click the "Update Cart" button.

## 7. Download the PDS products in the cart

Click the "Download" icon from the top navigational bar, which will bring you to the download cart page.

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### SELECTED ITEMS FOR DOWNLOAD

PDS Data products are **freely available to the public**. The ODE download cart allows a user to select multiple products and individual files for convenient download. For most requests, the ODE system will acquire, compress, and place the requested files on an FTP server. The user will receive an email when the files are ready for download.  
[More Product Download Information](#)

Confirm the products you have selected for download. After removing any unwanted products, click the continue button.

#### STEP 1. REVIEW PRODUCTS SELECTED FOR DOWNLOAD

Products Selected for Download: **4**  
Size of current cart selections: **658 MB**

[View Products Selected for Download](#) (Show Selection List - 4 Products)

#### STEP 2. DO YOU WISH TO ADD ADDITIONAL DATA SET FILES TO THE CART? - CREATE MINI-ARCHIVE

The Mini-Archive option will add all related files from the PDS Archive including: documentation, software, errata, extras, catalogs, indexes, and the browse images of any products selected for download.

Download Options:	
<input checked="" type="checkbox"/> <b>Selected Products</b> (label, data product, and browse images)	Products Selected for Download: <b>4</b> Files from Product selections: <b>17</b> Size of current cart selections: <b>658 MB</b>
<input type="checkbox"/> <b>Selected Products' Derived Files</b> (map projected, etc.)	Derived files: <b>0</b> Size of derived files: <b>0 MB</b>
<input type="checkbox"/> <b>Mini-Archive Files</b> (related files from the PDS Archive including: documentation, software, errata, extras, catalogs, and indexes)	Files from Mini-Archive selections: <b>143</b> Size of Mini-Archive files: <b>573 MB</b>
<b>Selection Total</b>	Products Selected for Download: <b>4</b> Files from selections: <b>17</b> Size of current cart selections: <b>658 MB</b> This cart selection should be available for download in approximately: <b>1.82 hours*</b>

\* Your cart selections include externally hosted files, which may take the Geosciences Node longer to acquire and organize for your download.

**If you require the files immediately:** Expand the product list above, and check "Display Individual Files of the Products". Then click the individual product files to directly download them from the source.

#### STEP 3. REVIEW SELECTIONS AND PROCEED TO CHECKOUT


When you are content with your selection of products and individual files, proceed by clicking the continue button.

[Continue >](#)

Click the "View Products Selected for Download" bar to review the PDS products in your cart.





**STEP 1. REVIEW PRODUCTS SELECTED FOR DOWNLOAD** **Empty the Cart**

Products Selected for Download: **4**  
 Size of current cart selections: **658 MB**

 **View Products Selected for Download** (Hide Selection List - 4 Products)

[Download HTML version of the product list](#)

Display Individual Files of the Products **Remove Unchecked Products from the Cart**

<u>Instrument</u>	<u>Type</u>	<u>Product ID</u>	<u>Obs Time</u>	<input type="checkbox"/>	
MRO CRISM	TRDR	 <a href="#">FRT00003192_07_IF165S_TRR2</a>	2006-11-22T08:35:31.474	<input checked="" type="checkbox"/>	<i>In Cart</i>
MRO CRISM	TRDR	 <a href="#">FRT000035D0_07_IF164L_TRR2</a>	2006-12-12T21:53:24.307	<input checked="" type="checkbox"/>	<i>In Cart</i>
MRO CTX	EDR	 <a href="#">P15_006735_1653_XI_14S184W</a>	2008-01-03T06:03:56.876	<input checked="" type="checkbox"/>	<i>In Cart</i>
MRO HIRISE	DTM	 <a href="#">DT1EC_001513_1655_001777_165_0_U01</a>		<input checked="" type="checkbox"/>	<i>In Cart</i>

Product detail pages can be viewed by clicking the product ID web links. The cart can be completely emptied with the “Empty the Cart” button. Additionally, individual products can be removed from the cart by deselecting the undesired products’ checkboxes and clicking the “Remove Unchecked Products from the Cart” button. We are happy with the products in the download cart, so no changes will be made.

Next, review the additional download options. Map projected kmz and shape files that were created for your cart selections can be added to the download request. Also, related PDS archive documentation that is affiliated with the cart selections can be added by selecting the “Mini-Archive Files” check box.

## STEP 2. DO YOU WISH TO ADD ADDITIONAL DATA SET FILES TO THE CART? - CREATE MINI-ARCHIVE

The Mini-Archive option will add all related files from the PDS Archive including: documentation, software, errata, extras, catalogs, indexes, and the browse images of any products selected for download.

Download Options:	
<input checked="" type="checkbox"/> <b>Selected Products</b> (label, data product, and browse images)	Products Selected for Download: <b>4</b> Files from Product selections: <b>17</b> Size of current cart selections: <b>658 MB</b>
<input checked="" type="checkbox"/> <b>Selected Products' Derived Files</b> (map projected, etc.)	Derived files: <b>8</b> Size of derived files: <b>0 MB</b>
<input type="checkbox"/> <b>Mini-Archive Files</b> (related files from the PDS Archive including: documentation, software, errata, extras, catalogs, and indexes)	Files from Mini-Archive selections: <b>143</b> Size of Mini-Archive files: <b>573 MB</b>
<b>Selection Total</b>	Products Selected for Download: <b>4</b> Files from selections: <b>25</b> Size of current cart selections: <b>658 MB</b> This cart selection should be available for download in approximately: <b>1.82 hours*</b>

\* Your cart selections include externally hosted files, which may take the Geosciences Node longer to acquire and organize for your download.

**If you require the files immediately:** Expand the product list above, and check "Display Individual Files of the Products". Then click the individual product files to directly download them from the source.

Add the map projected files by clicking the "Selected Products' Derived Files".

We are ready to continue, so click the "Continue" button.



## STEP 3. REVIEW SELECTIONS AND PROCEED TO CHECKOUT

When you are content with your selection of products and individual files, proceed by clicking the continue button.

[Continue >](#)

On the following page, you must select the desired compression format and provide your email address. The order fulfillment process will gather and compress the files of the cart order. Then the process will email you a direct FTP link and login credentials to download the compressed files.

Enter your desired compression format and email address. Then click the “Submit Request” button.



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### DOWNLOAD SETUP < Back ?

**Details for acquiring the selected data files:**

1. The Geosciences Node will retrieve the files you have requested and place them in a user specific FTP folder for your download. After the completion and submission of this form, an automated system will prepare the FTP site for you to download the selected files from. You will receive an email when the files are ready for download. The email will include the FTP address and username.

Select format:       Zip     Tar     Tar.Gz



**Terms and Conditions**  
PDS data products and data set files are freely available to the public.

**Policy for Citations of PDS Data** [click here for a new window](#)

Your email:

(You will be notified at this email address when the files are ready for download.)

A confirmation page is displayed after the request is submitted. As previously stated, you will receive an email when the requested files are available for download.



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### DOWNLOAD REQUEST CONFIRMATION

Your request has been successfully submitted. The request number is **110221-1948**. You will receive a notification email when the files are ready for download. The email will provide the FTP address for retrieving the requested product files.

If you do not receive the notification email in 24 hours, please contact us at [odewebmaster@wunder.wustl.edu](mailto:odewebmaster@wunder.wustl.edu).