

# **Bulk Download Application (BDA) Help Documentation**

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## **I. Introduction**

Since 2008, the projects at U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center have been making more of their data holdings available to the public at no charge. As a result, projects began to “web-enable” data via EarthExplorer.

Following this direction, projects began to “web-enable” data via [EarthExplorer](#) (EE), [Hazards Data Distribution Systems](#) (HDDS), and [Global Visualization Viewer](#) (GloVis) access and distribution web portals. Users now require easier ways to access the data. For example, users have requested bulk downloads to support their requirements for access to larger amounts of data. To support these requirements, the Bulk Download Application (BDA) has been integrated with the EE and HDDS systems to allow this capability.

The overall goal of the BDA is to streamline and enhance the capability for delivering bulk data to customers while managing the resources that store these data. The EROS BDA service requires the user to use either the EE or HDDS as the front end systems for access to the query systems for the desired data. The BDA interfaces with the EROS Mass Storage System and other storage systems to facilitate download of data through a simple JAVA applet.

### **BDA Help Documents**

The BDA Help Documents can be found at: [https://lta.cr.usgs.gov/ee\\_help](https://lta.cr.usgs.gov/ee_help)

BDA Application: <http://earthexplorer.usgs.gov/bulk/>

BDA Help Document: <https://lta.cr.usgs.gov/BulkDownloadApplication>

## II. Installation of Bulk Download Application (BDA)

The BDA is available at <http://earthexplorer.usgs.gov/bulk/>. This link is also included in the order confirmation emails that you receive after orders are submitted.

You will be required to login using your EE credentials.

On this page, you will want to review the BDA information, and then download the application to your operating system.

**USGS**  
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**EarthExplorer**

Home Profile Logout user Feedback Help

**Bulk Download Application 1.1**  
1.82 MB

The Bulk Download Application is an easy-to-use tool for downloading large quantities of satellite imagery and geospatial data.

Once scenes are added to a Bulk Order via Earth Explorer, the Bulk Download Application can be used to automatically retrieve them with little to no user interaction. The application will automatically iterate through the scene list and download each until all have been processed. It allows the user to re-arrange, pause, skip, and resume downloads at will.

To learn more about the application, [take the tour](#).

*Please note, you must install the application to a directory for which you have read/write permissions.*

[Download For Windows 32-Bit](#)

[Do you have a different operating system?](#)

**System Requirements**

*Java*

*Please note, only official Oracle versions of Java are supported*

- Oracle Java 7.x+
- Oracle Java 8.x+

*Windows*

**Operating Systems**

- Windows Vista
- Windows 7
- Windows 8 - See [help documentation](#) for installation details

**Minimum Hardware**

- Pentium 4 or newer processor
- 1GB of RAM

*Mac*

**Operating Systems**

- Mac OS X 10.7.3 or later

**Minimum Hardware**

- Intel based x86 processor
- 1GB of RAM

*Linux*

**Operating Systems**

- Ubuntu 10.04+
- Debian 6+
- OpenSuSE 11.3+
- Fedora Linux 14+

**Minimum Hardware**

- Pentium 4 or newer processor
- 512MB of RAM

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U.S. Department of the Interior U.S. Geological Survey  
URL: <http://earthexplorer.usgs.gov>  
Page Contact Information: [lea@usgs.gov](mailto:lea@usgs.gov)  
Page Last Modified: 08/07/2014

USA.gov TAKE PRIDE IN AMERICA

Figure 1 - BDA Download Application

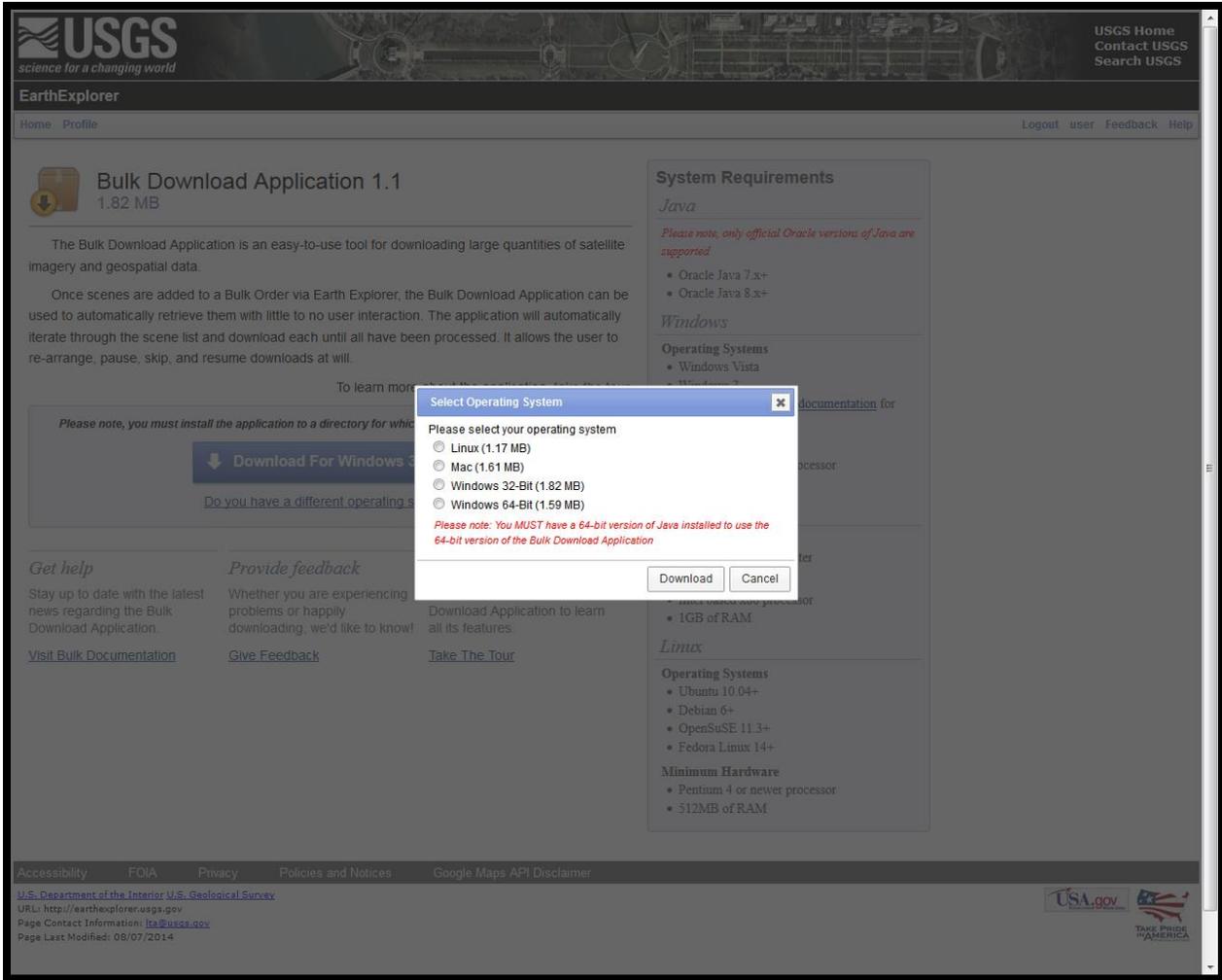


Figure 2 - BDA Select Operating System

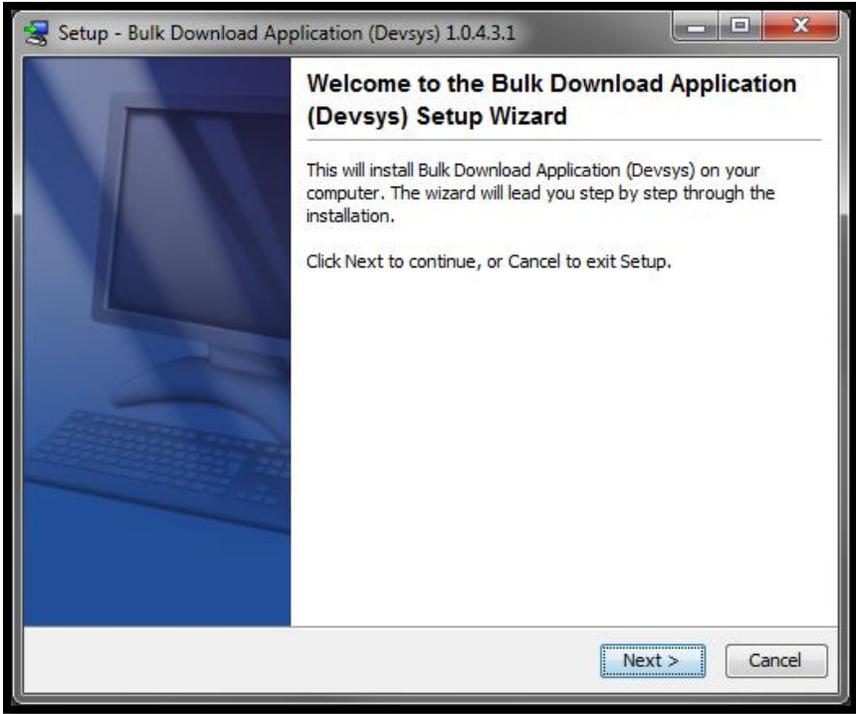


Figure 3 - BDA Setup Wizard

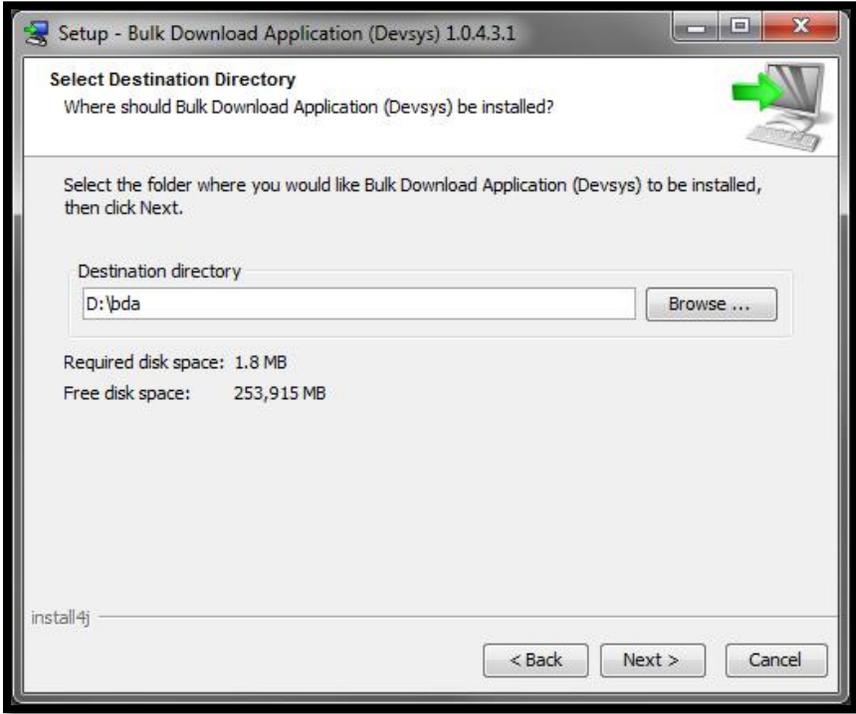


Figure 4 - BDA Select Destination Directory

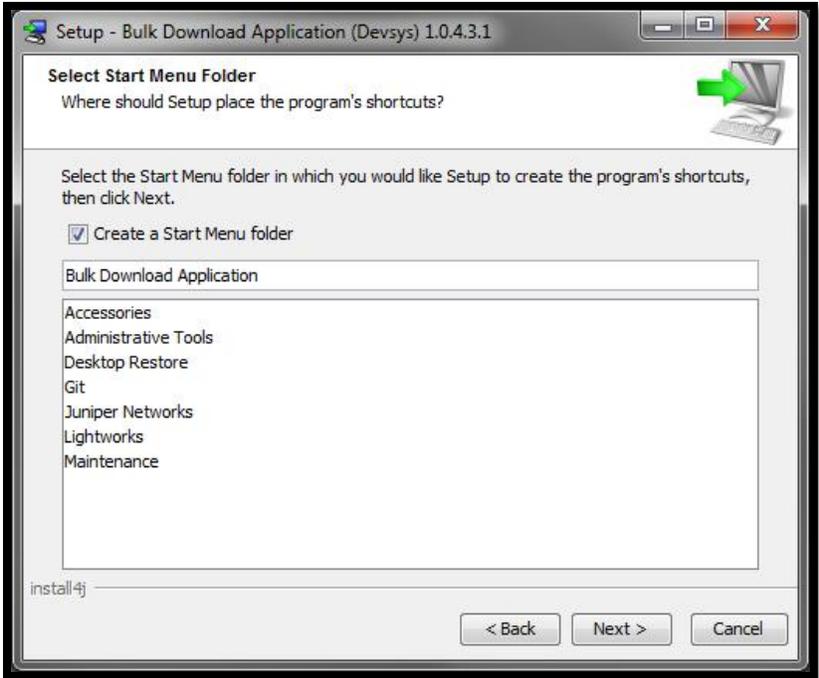


Figure 5 - BDA Select Start Menu Folder

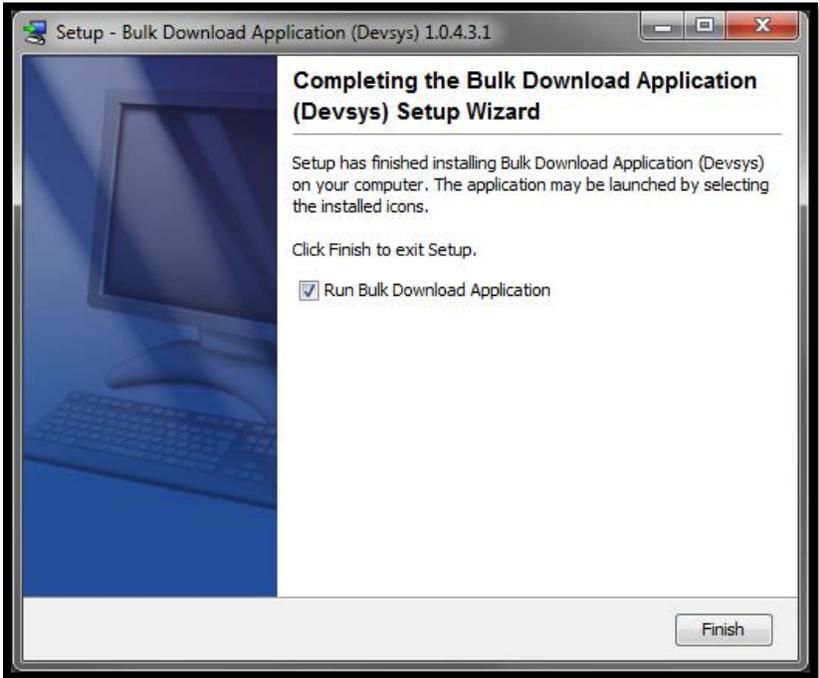


Figure 6 - Completing BDA Setup Wizard

After you have installed the BDA, you are now ready to place bulk orders. See **Section III** or **Section IV**.

### III. Searching for Data and Submitting Bulk Orders

The BDA can be used for data visible on the USGS [EarthExplorer](#) (EE) and [Hazards Data Distribution System](#) (HDDS) User Interfaces. The user must be logged in to download individual scenes or place bulk download requests.

#### A. Login

The login process allows registered users to log on to the EE system. As a registered user, you can use all of the EE features, including the ability to save your search criteria and results, download data, access subscription services and to save specific parameters you may want to apply to a specialized item request.

To log in, select the Login menu item from EE menu.

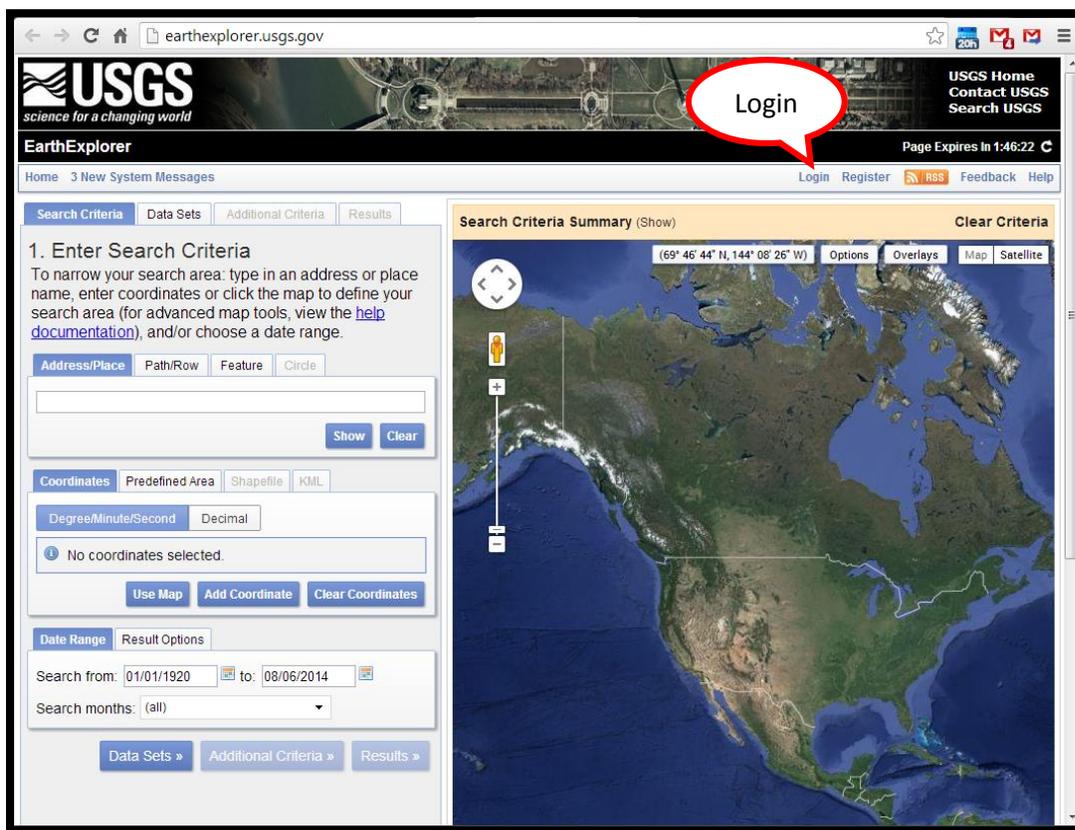


Figure 7 - EE Home Page

Enter your Username and Password then select the Sign In button.

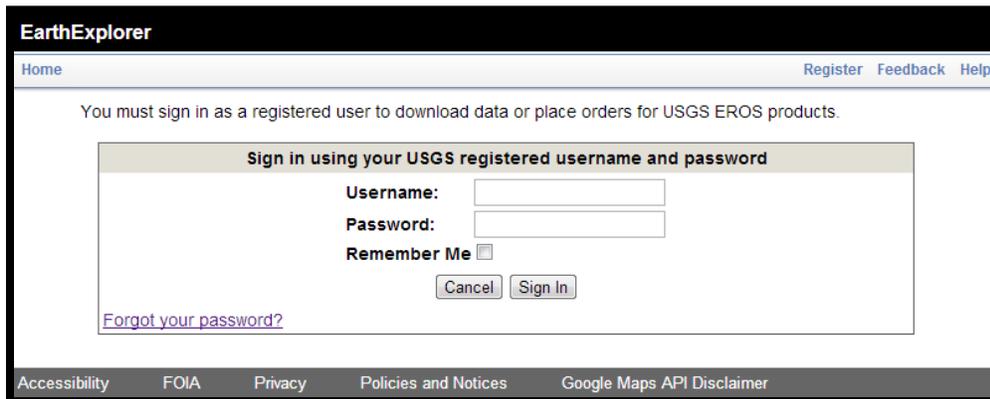


Figure 8 - Login Username and Password

Once you are logged in, additional items will appear in the main menu bar.

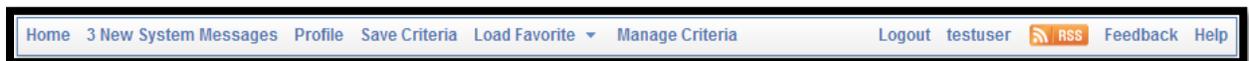


Figure 9 - Main Menu Bar

## B. Search Criteria

The EE system allows users to search, download, and order data held in the USGS archives through a number of query options. EE uses tabs in the application to facilitate stepping through each portion of the search process. The EE search process is broken down into four main areas:

- Search Criteria - Provides the interface for entering various search options.
- Data Sets - Provides the interface for selecting the data type.
- Additional Criteria - Provides an interface for entering additional search criteria specific to the selected dataset.
- Results - Provides the interface for displaying a textual and graphical view of the query results.



Figure 10 - Search Tabs

## C. Enter Search Criteria using Search Criteria Tab

The Search Criteria tab allows users to enter their search criteria for the area or location they are interested in. Users can either enter their search criteria in the textual information in the Search Criteria tab panel, or use the Google Map interface.

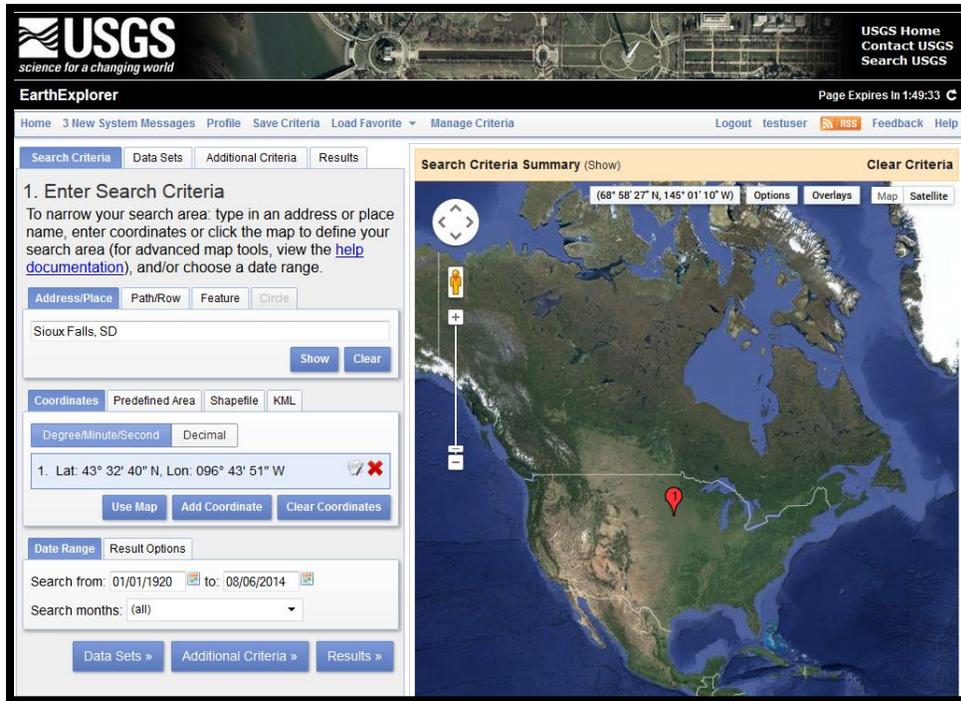


Figure 11 - Search Criteria

Users can choose several search criteria options:

- Google Map Interface - Allows the user to enter their area of interest using Google Map.
- Address/Place - Allows the user to enter in an address or place name.
- Area Selected - Allows the user to enter coordinates to define their area of interest. In addition, this area is updated when selecting areas on the map or when an address or place name is entered.
- Dates Selected - Allows the user to enter a date range.
- Results Options - Allows the user to modify the number of scenes to return from a search.

#### D. Data Sets Tab

The Data Sets tab allows the user to select the data set(s) to perform the search identified from the Search Criteria tab.

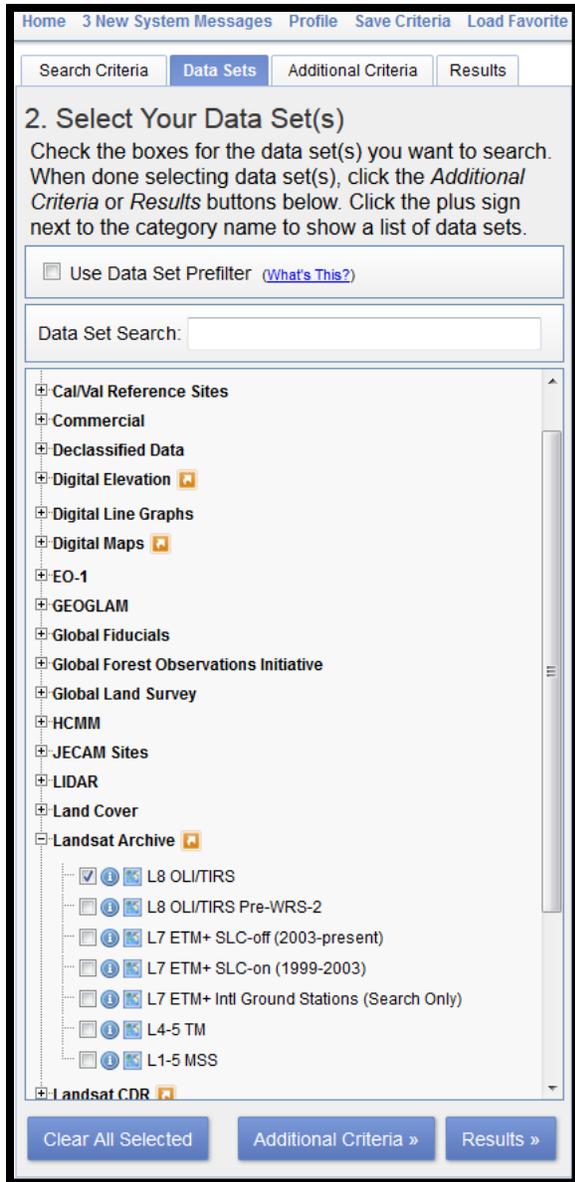


Figure 12 - Select Your Data Set(s)

The Data Set menu categorizes data sets into similar data collections. The EE system uses a dynamic tree menu with expandable/collapsible links for each major data collection. Click the plus sign  next to the category name to expand the list of datasets for that collection. Click the minus sign  next to the category name to collapse the list of datasets for that collection.

### E. Enter Additional Criteria Tab

The Additional Criteria tab is an optional input area that allows entry of additional search criteria for the data set(s) selected. Selecting the Additional Criteria tab displays the first dataset additional criteria form.

Search Criteria | Data Sets | **Additional Criteria** | Results

### 3. Additional Criteria (Optional)

If you have more than one data set selected, use the dropdown to select the additional criteria for each data sets.

Data Sets:  
L8 OLI/TIRS ▾

**L8 OLI/TIRS**

Landsat Scene Identifier

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

WRS Path  
\_\_\_\_\_ to \_\_\_\_\_

WRS Row  
\_\_\_\_\_ to \_\_\_\_\_

Sensor ID  
All  
OLI  
OLI\_TIRS  
TIRS ▾

Data Type Level 1  
All ▾

Reset All Criteria      Results »

Figure 13 - Additional Criteria (optional)

Each data set in EE has additional criteria that can be filled in to narrow down the results of a search.

#### F. View Search Results Tab

The Results tab displays the results of the specified search for the area or location identified. The results panel displays the thumbnail and textual information for each scene returned from the search criteria on the left side of the panel. The right side of the form displays the Google Map interface with an outline of the area identified for the search. (The up-to-date Google Map is not for purchase or for download; it is to be used as a guide for reference and search purposes only.)

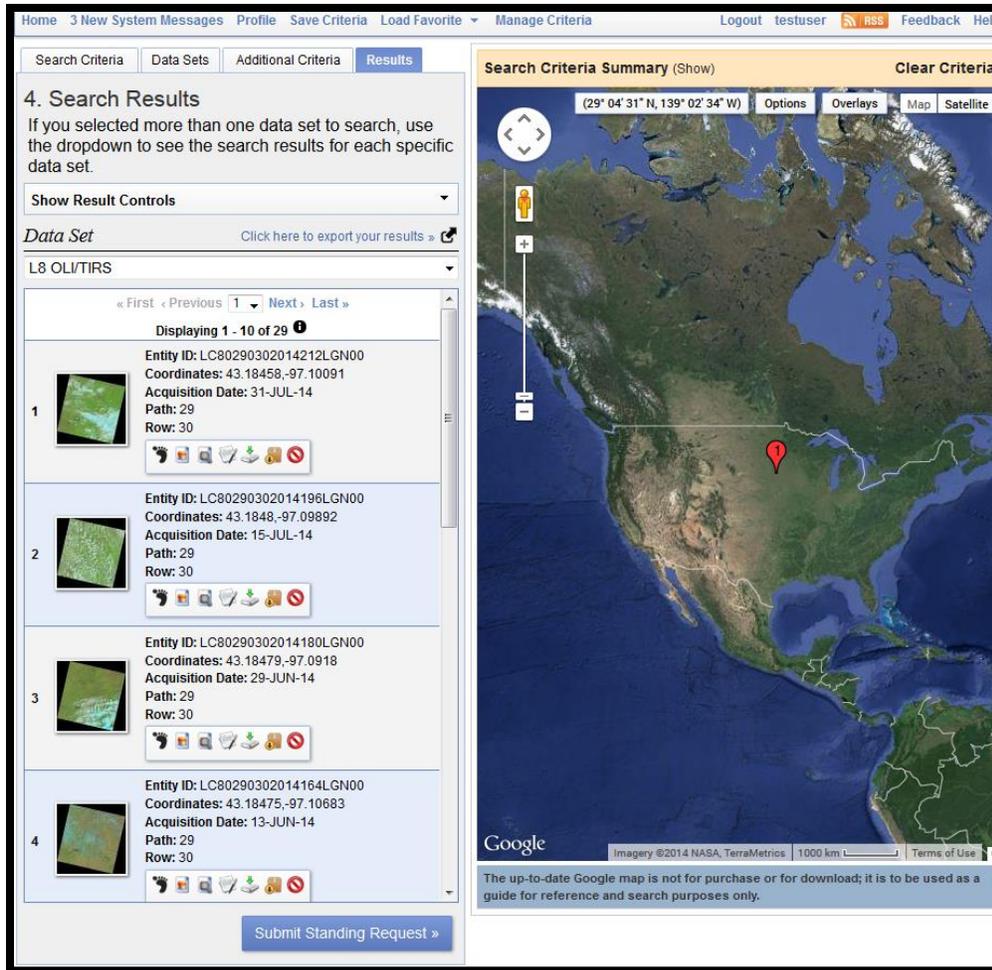


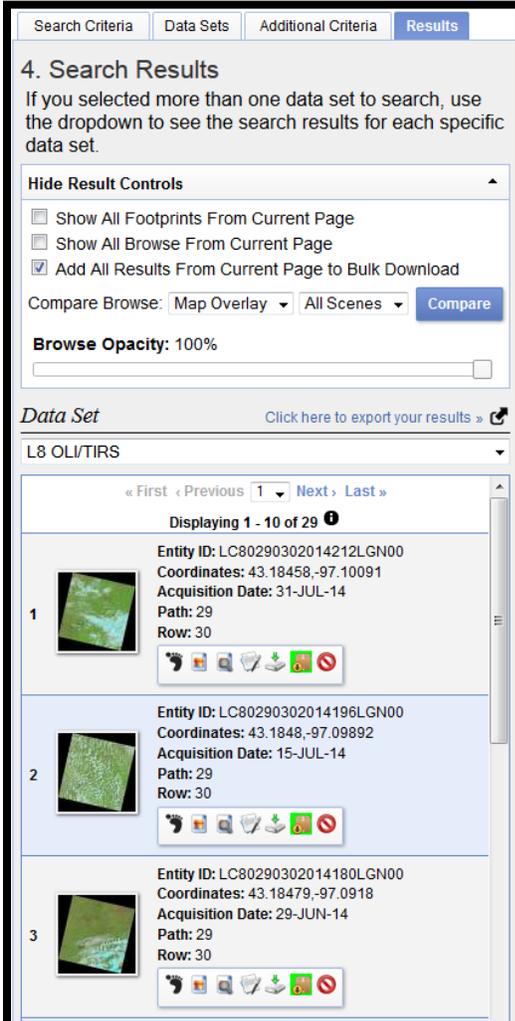
Figure 14 - Search Results

The Results options include the following components:

- Show Result Controls - Provide the option to show all footprints and browse from current page, and add all results from current page to bulk download.
- Search Results list - Displays the thumbnail, textual information, view details on each scene, view browse, request download of data, bulk download icon, and other visualization controls for each record returned from the search.
- Download Options -  Allows the user to download the selected data. A user must be registered and logged in to download data.
- Add to Bulk Download - The bulk download option allows the user to request large amounts of data.
- Order Scene - The order option allows the user to request on-demand ordering of products.
- Google Map Interface - Allows the user to see the search area, look at the footprint on the map, and review the browse image for each scene.

## G. Bulk Download through the EE Results

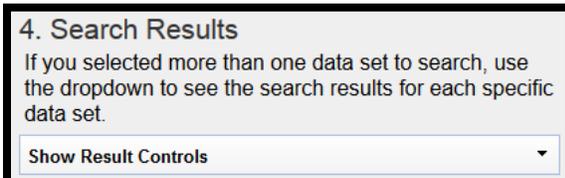
Once logged in the bulk download icon  will be available on the Results page.



The screenshot shows the 'Results' tab of a search interface. At the top, there are tabs for 'Search Criteria', 'Data Sets', 'Additional Criteria', and 'Results'. Below the tabs is the heading '4. Search Results' followed by a paragraph: 'If you selected more than one data set to search, use the dropdown to see the search results for each specific data set.' Below this is a 'Hide Result Controls' section with three checkboxes: 'Show All Footprints From Current Page' (unchecked), 'Show All Browse From Current Page' (unchecked), and 'Add All Results From Current Page to Bulk Download' (checked). There are also 'Compare Browse' dropdowns for 'Map Overlay' and 'All Scenes', and a 'Compare' button. A 'Browse Opacity' slider is set to 100%. Below the controls is a 'Data Set' dropdown set to 'L8 OLI/TIRS' and a link to 'Click here to export your results'. The main area displays a list of search results, showing 'Displaying 1 - 10 of 29'. Three results are visible, each with a thumbnail, Entity ID, Coordinates, Acquisition Date, Path, and Row. Each result has a set of icons, including a bulk download icon (a hand holding a document).

Figure 15 - Search Results Bulk Icon Selected

To add individual scenes to the Bulk Item Basket, select the bulk download icon  next to the scene desired for bulk download delivery. To select all the scenes on the page for bulk download, select Add All Results From Current Page to Bulk Download from the Show Results Control selection box.



The screenshot shows the '4. Search Results' section with the same introductory text as Figure 15. Below the text is a dropdown menu labeled 'Show Result Controls' with a downward arrow.

Figure 16 - Show Results Controls

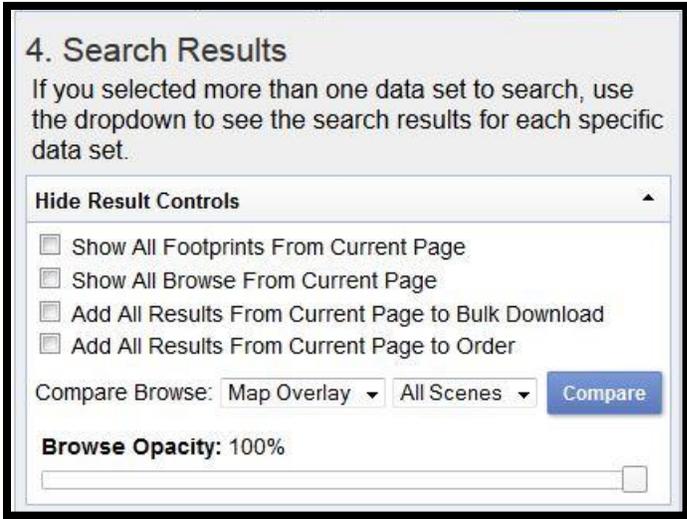


Figure 17 - Show Results Controls Expanded

Adding all results will update the item basket based on the number of scenes displayed on the page.

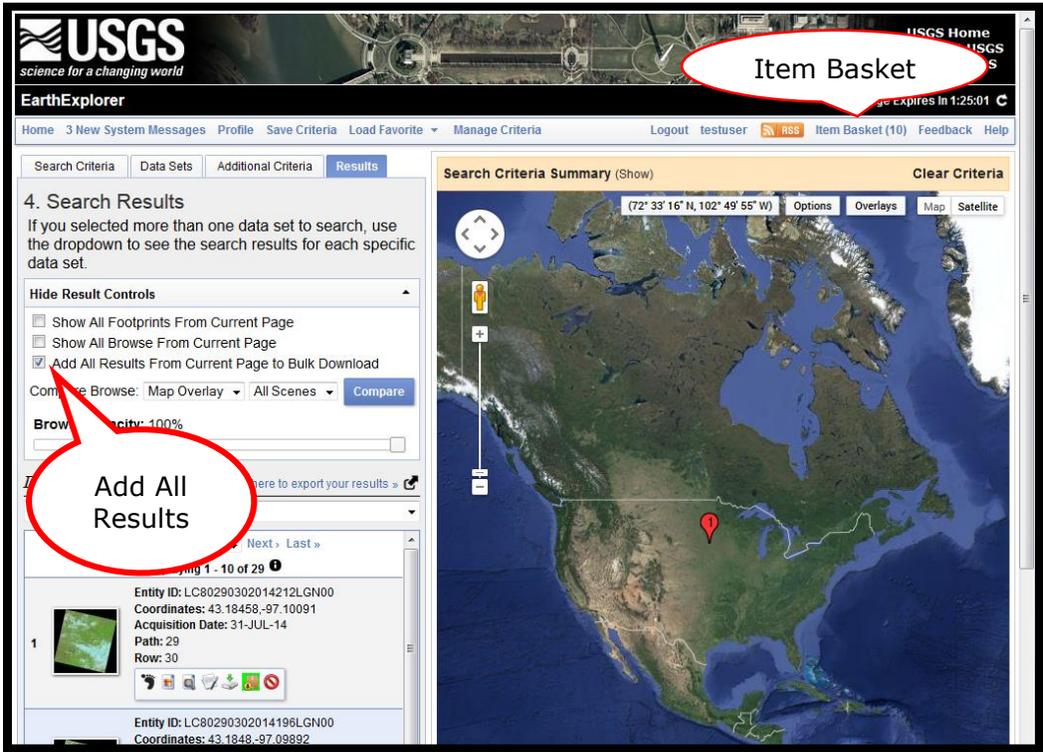


Figure 18 - Add All Results to Item Basket

After adding the desired scenes to the item basket, select the Item Basket to continue the bulk order.

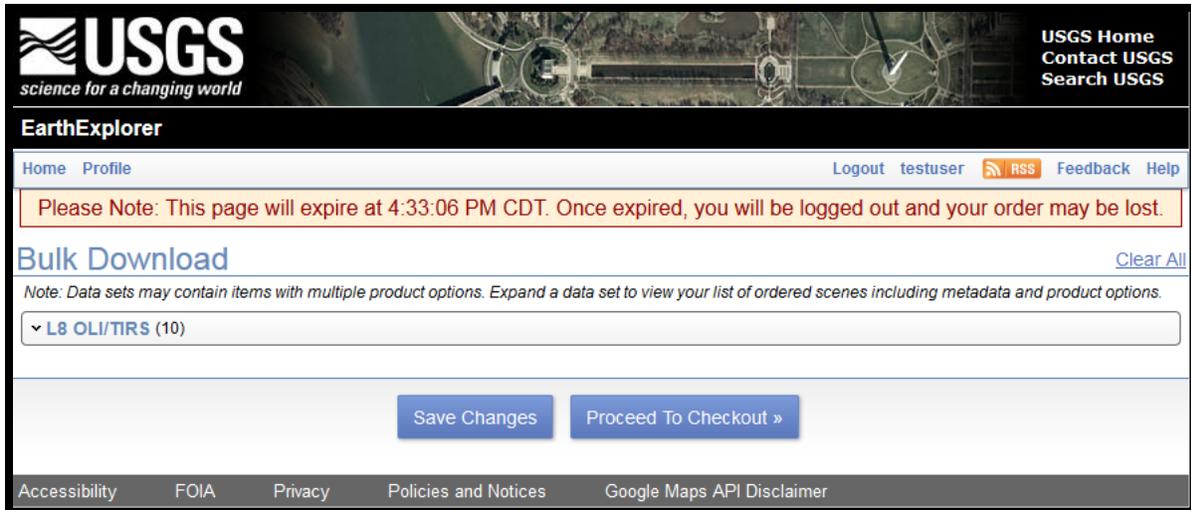


Figure 19 - Bulk Download Review

Select Proceed To Checkout

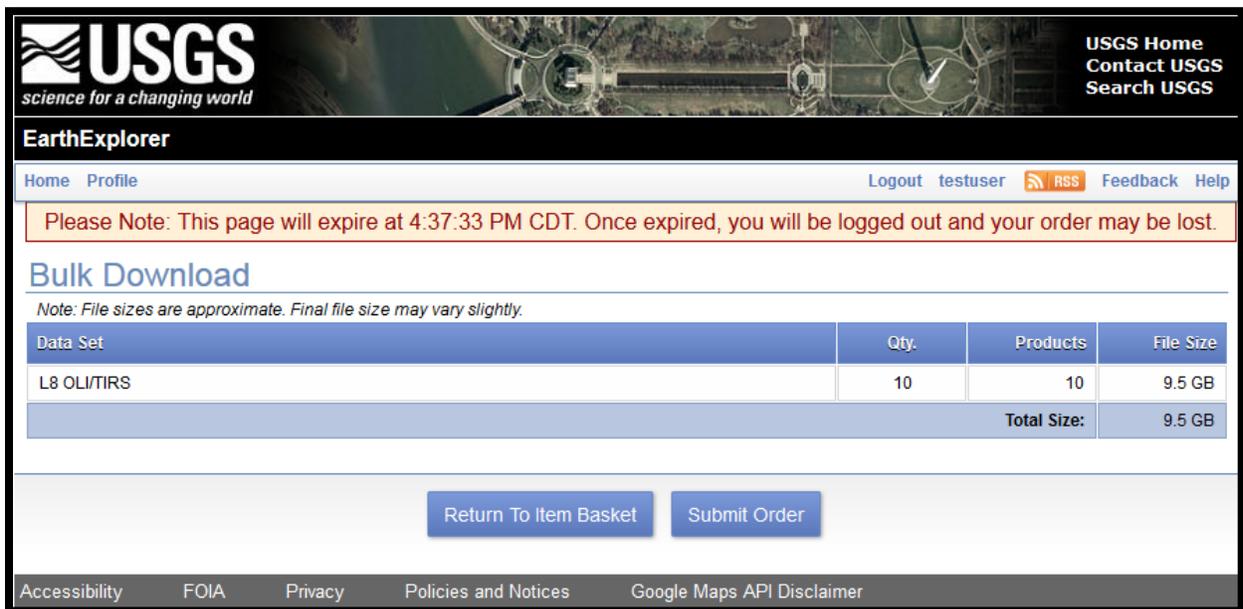


Figure 20 - Bulk Download Itemized Review

Select Return to Item Basket to return to the previous page.  
 Select Submit Order to refresh the screen showing the Bulk Download order number, download instructions, and list of ordered items.

The Bulk Download Detail will display the Bulk Download order number, a link to the BDA, and instructions for first time users. This information will also be sent in an email to the registered user.

Home Profile Logout testuser Feedback Help

## Bulk Download

Your Bulk Download order number 358864 has been received. A notification has also been sent to the email provided in your USGS Registration profile. **To begin the download process, the [Bulk Download Application \(BDA\)](#) is required. First time users: please download, install and open the BDA. Returning users: please open the BDA installed on your system. You will be required to login using the EarthExplorer username and password used to complete your download request. Information and installation links can also be found at <https://earthexplorer.usgs.gov/bulk/help/>**

If your order is Available, highlight the order number and click Select Order. On the next page, navigate to the download destination, make changes as you see fit for your system, highlight the first item in the list, and click Begin Download. When all items are downloaded you can select another order or close the window. The system will also keep track of failed downloads and retry them.

Bulk download orders are available for two weeks, after which they are removed. You will need to place a new order to obtain data products if you do not download them from original order.

L8 OLI/TIRS		
Entity ID	Product Description	File Size
<a href="#">LC80290302014196LGN00</a>	Level 1 GeoTIFF Data Product	1.0 GB
<a href="#">LC80290302014180LGN00</a>	Level 1 GeoTIFF Data Product	982.1 MB
<a href="#">LC80290302014164LGN00</a>	Level 1 GeoTIFF Data Product	988.8 MB
<a href="#">LC80290302014148LGN00</a>	Level 1 GeoTIFF Data Product	933.5 MB
<a href="#">LC80290302014132LGN00</a>	Level 1 GeoTIFF Data Product	1,021.8 MB
<a href="#">LC80290302014116LGN00</a>	Level 1 GeoTIFF Data Product	932.5 MB
<a href="#">LC80290302014100LGN00</a>	Level 1 GeoTIFF Data Product	933.2 MB
<a href="#">LC80290302014084LGN00</a>	Level 1 GeoTIFF Data Product	925.3 MB
<a href="#">LC80290302014068LGN00</a>	Level 1 GeoTIFF Data Product	963.8 MB
<a href="#">LC80290302014212LGN00</a>	Level 1 GeoTIFF Data Product	1,010.4 MB
<b>Totals</b>		<b>Total File Size: 9.5 GB</b>

[Return To EarthExplorer](#)

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Figure 21 - Bulk Download Detail

After you have submitted the Bulk order, you can use the BDA to download the data. See **Section V**.

## IV. File List Ordering

Another way to place Bulk Download orders is to use the File List Ordering page. (<http://earthexplorer.usgs.gov/filelist>). This page allows the upload of text file scene lists (as shown in Figure 24).

After a successful sign in, the page will be displayed as in Figure 22.

You can select the Single Data Set tab, or the Multiple Data Sets, for lists containing scenes from more than one data set. Instructions for using this utility are shown on each tab.

The screenshot shows the EarthExplorer website interface. At the top left is the USGS logo with the tagline "science for a changing world". To the right are links for "USGS Home", "Contact USGS", and "Search USGS". Below the logo is the "EarthExplorer" header with navigation links: "Home", "Profile", "Search Again", "Logout", "Google\_bulk", "Feedback", and "Help". The main heading is "File List Ordering". There are two tabs: "Single Data Set" (selected) and "Multiple Data Sets". A light blue box contains instructions: "1. Select the data Set that matches your scene list", "2. Select the appropriate file format matching your input file (file format descriptions below)", "3. Select a file to import", and "4. Click on the 'Submit File List' button. This will process your scene list and take you to a page summarizing your file list. From there you will select your downloading/ordering options." Below this is a note: "Not all products may be available for all scenes. When this occurs we will submit your order with only the available products per scene." Under "File Formats", there are four bullet points: "EarthExplorer Metadata Export - Use the output of the EarthExplorer 'Comma Separated' Metadata Export", "GloVis Scene List - A GloVis Saved Scene List", "MODIS Scene List - A list of MODIS granule ids for the selected dataset in a GloVis Export or a list with one granule per line", and "Scene List - A list of scene ids for the selected dataset in a comma separated list or in a list with one scene per line". Below the instructions is a "Data Set:" dropdown menu, a "File Format:" dropdown menu set to "EarthExplorer Metadata Export", and a "File:" field with a "Browse..." button and the text "No file selected.". A large blue "Submit File List" button is centered below the form. The footer contains links for "Accessibility", "FOIA", "Privacy", "Policies and Notices", and "Google Maps API Disclaimer". At the bottom left are links for "U.S. Department of the Interior U.S. Geological Survey", "URL: http://earthexplorer.usgs.gov", and "Page Contact Information: us@usgs.gov". At the bottom right is the "USA.gov" logo with the text "U.S. GOVERNMENT" and "Department of the Interior U.S. Geological Survey".

Figure 22 - Single Data Set

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Home Profile Search Again Logout Google\_bulk Feedback Help

## File List Ordering

Single Data Set **Multiple Data Sets**

1. Select the appropriate file format matching your input file (file format descriptions below)
2. Select a file to import
3. Click on the "Submit File List" button. This will process your scene list and take you to a page summarizing your file list. From there you will select your downloading/ordering options.

Not all products may be available for all scenes. When this occurs we will submit your order with only the available products per scene.

**File Formats**

- **GloVis Scene List** - A GloVis Saved Scene List
- **Landsat Scene List** - A list of Landsat scene ids in a comma separated list or in a list of one scene per line
- **MODIS Scene List** - A list of MODIS granule ids in a GloVis Saved Scene List or in a list of one granule per line

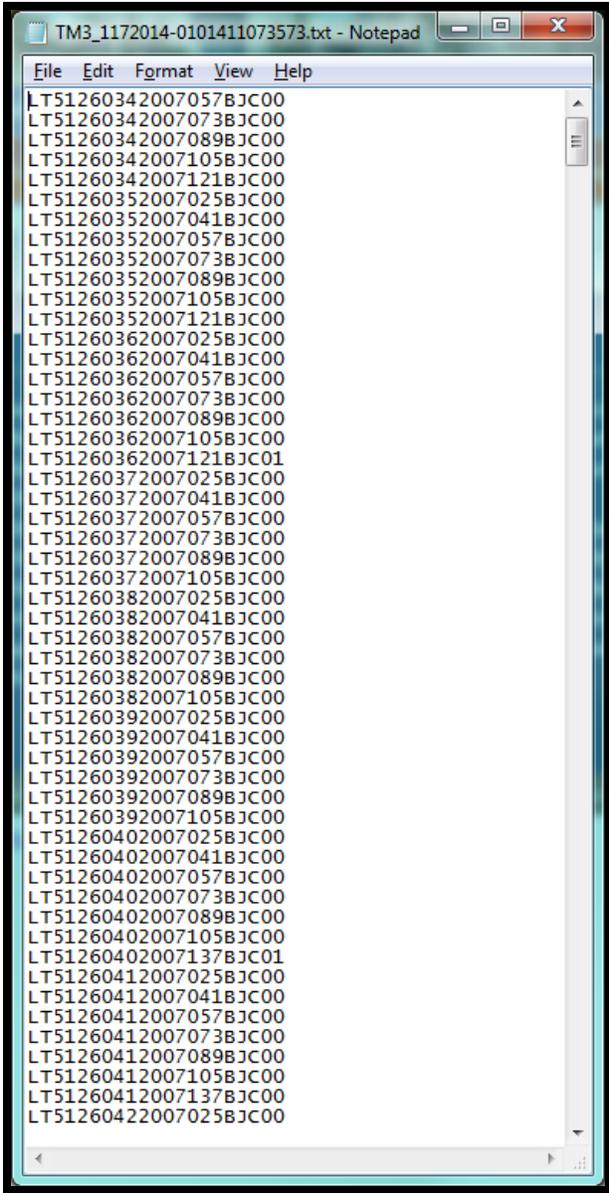
File Format: GloVis Scene List File:  No file selected.

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U.S. Department of the Interior U.S. Geological Survey  
 URL: <http://earthexplorer.usgs.gov>  
 Page Contact Information: [ta@usgs.gov](mailto:ta@usgs.gov)  
 Page Last Modified: 09/23/2014  
 Server: edcbx158

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Figure 23 - Multiple Data Sets



The image shows a Notepad window titled "TM3\_1172014-0101411073573.txt - Notepad". The window contains a list of 50 alphanumeric strings, each on a new line. The strings are organized into groups based on their prefixes: "LT51260342007057BJC00", "LT51260352007025BJC00", "LT51260362007025BJC00", "LT51260372007025BJC00", "LT51260382007025BJC00", "LT51260392007025BJC00", "LT51260402007025BJC00", "LT51260412007025BJC00", and "LT51260422007025BJC00". Each group contains 5 or 6 variations of the string, with the last digit of the alphanumeric code changing (e.g., 00, 01, 02, 03, 04, 05).

Figure 24 - List Example

Example List Name: TM3\_1172014-0101411073573.txt

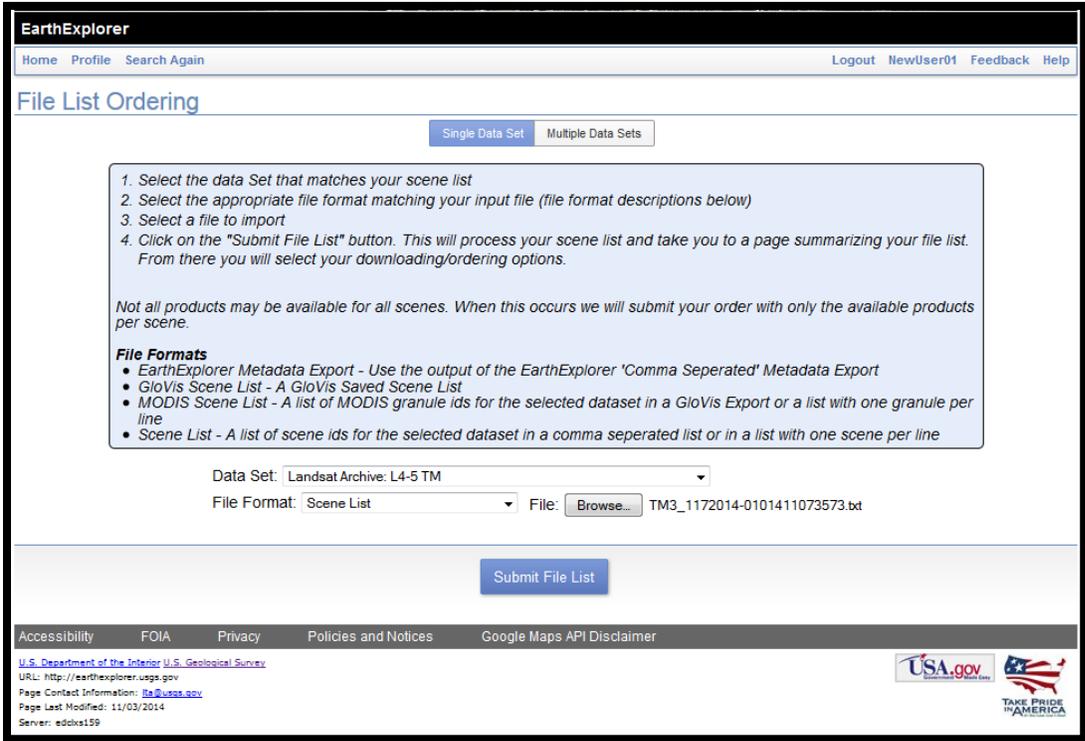


Figure 25 - Submit File List

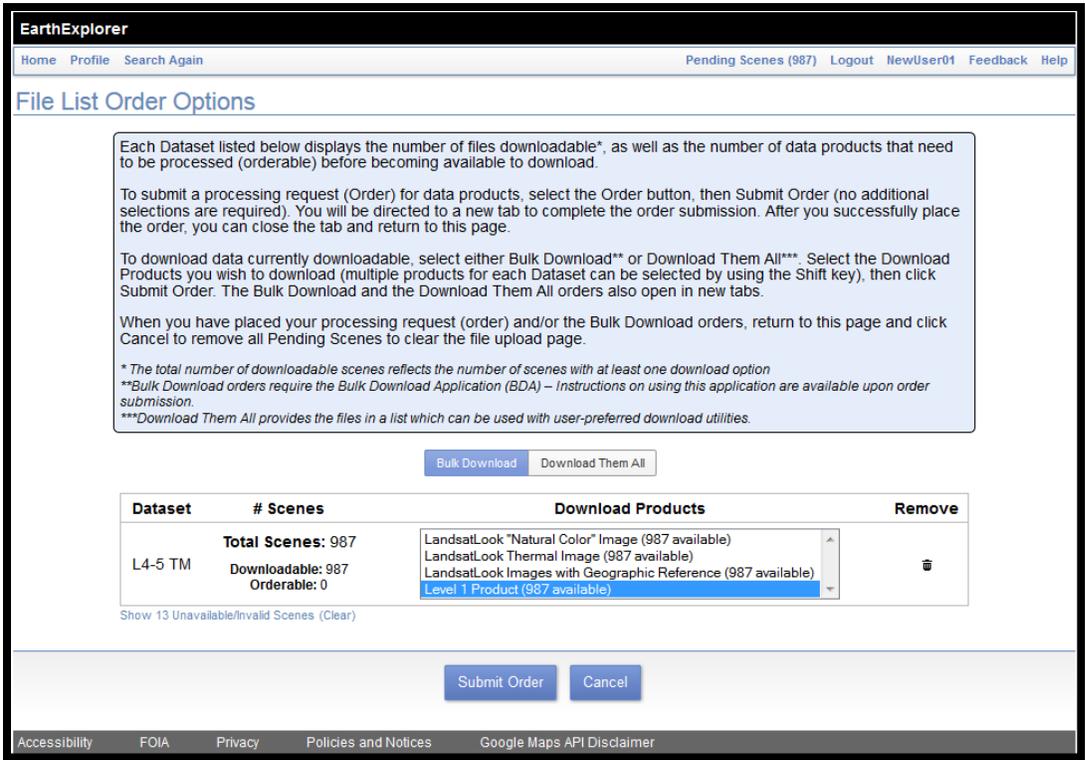


Figure 26 - Submit Order

**EarthExplorer**

Home Profile Logout NewUser01 Feedback Help

## Bulk Download

Your Bulk Download order number 408851 has been received. A notification has also been sent to the email provided in your USGS Registration profile. **To begin the download process, the [Bulk Download Application \(BDA\)](#) is required. First time users: please download, install and open the BDA. Returning users: please open the BDA installed on your system. You will be required to login using the EarthExplorer username and password used to complete your download request. Information and installation links can also be found at <https://earthexplorer.usgs.gov/bulk/help/>**

If your order is Available, highlight the order number and click Select Order. On the next page, navigate to the download destination, make changes as you see fit for your system, highlight the first item in the list, and click Begin Download. When all items are downloaded you can select another order or close the window. The system will also keep track of failed downloads and retry them.

Bulk download orders are available for two weeks, after which they are removed. You will need to place a new order to obtain data products if you do not download them from original order.

L4-5 TM		
Entity ID	Product Description	File Size
<a href="#">LTS1260342007057BJC00</a>	Level 1 Product	159.9 MB
<a href="#">LTS1260342007073BJC00</a>	Level 1 Product	115.8 MB
<a href="#">LTS1260342007089BJC00</a>	Level 1 Product	155.1 MB
<a href="#">LTS1260352007057BJC00</a>	Level 1 Product	147.7 MB
<a href="#">LTS1260352007073BJC00</a>	Level 1 Product	102.0 MB
<a href="#">LTS1260352007089BJC00</a>	Level 1 Product	149.8 MB
<a href="#">LTS1260362007105BJC00</a>	Level 1 Product	145.9 MB
<a href="#">LTS1260342007105BJC00</a>	Level 1 Product	118.0 MB
<a href="#">LTS1260352007105BJC00</a>	Level 1 Product	174.0 MB

Figure 27 - Bulk Download Notification

### Section V - Using the BDA to download data

Once you have submitted a Bulk Order and received the order confirmation, you are now ready to access the BDA to begin downloading.

The Bulk Download Application will be located in the Start menu on your system. Log in using your [EarthExplorer](#) username and password.

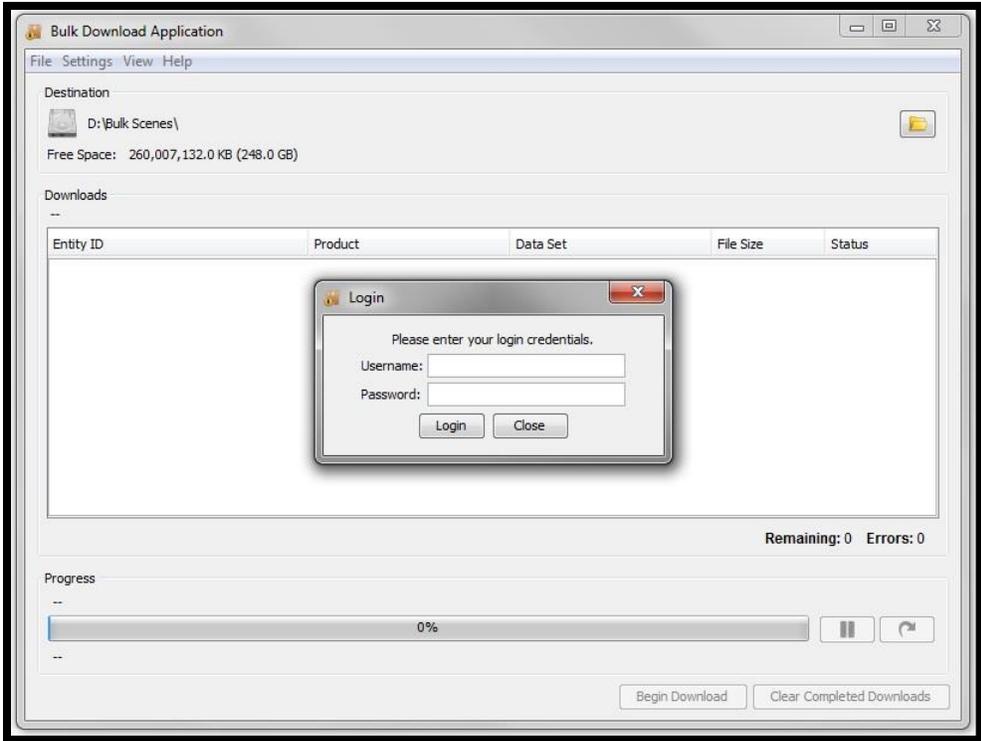


Figure 28 - BDA Login

After a successful login, all orders will be listed (see Figure 29 - BDA order screen)

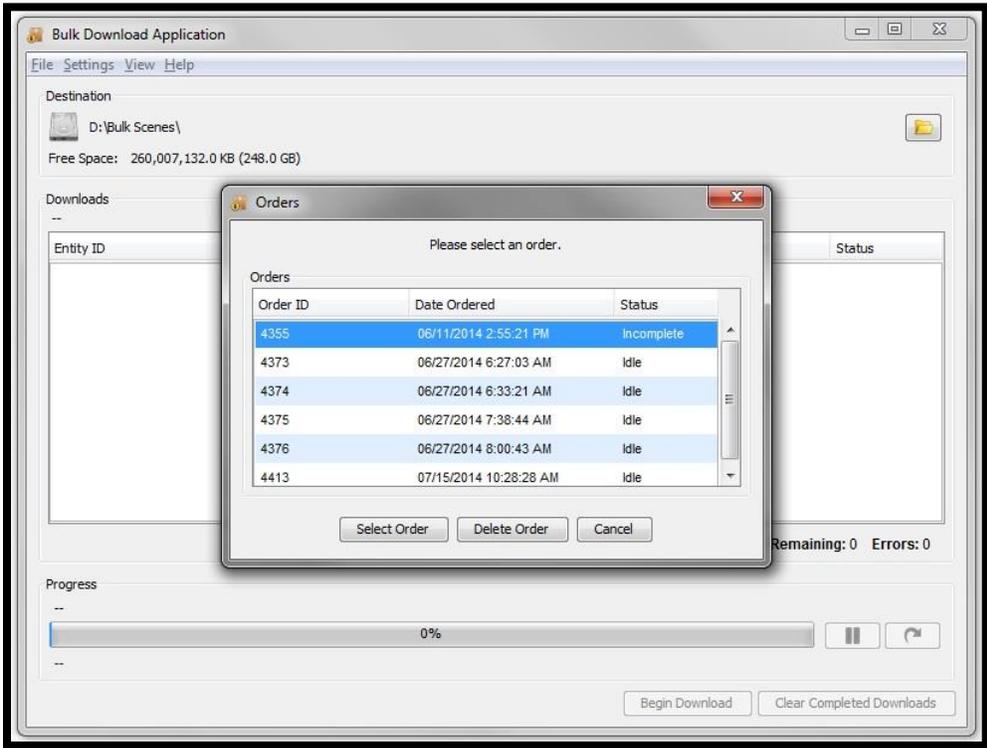


Figure 29 - BDA Order Screen

Select the order you wish to download and click Select Order. All files within the selected order will be displayed. You can Delete Orders, or Cancel to close the box. You can also access the available orders by going to the File menu.

Click the folder icon (top right portion of the box), and select the destination directory to where the data will be downloaded. You will want to ensure that the selected directory has enough space to accommodate the data being downloaded. (See figure 30 - BDA download screen)

Click Begin Download.

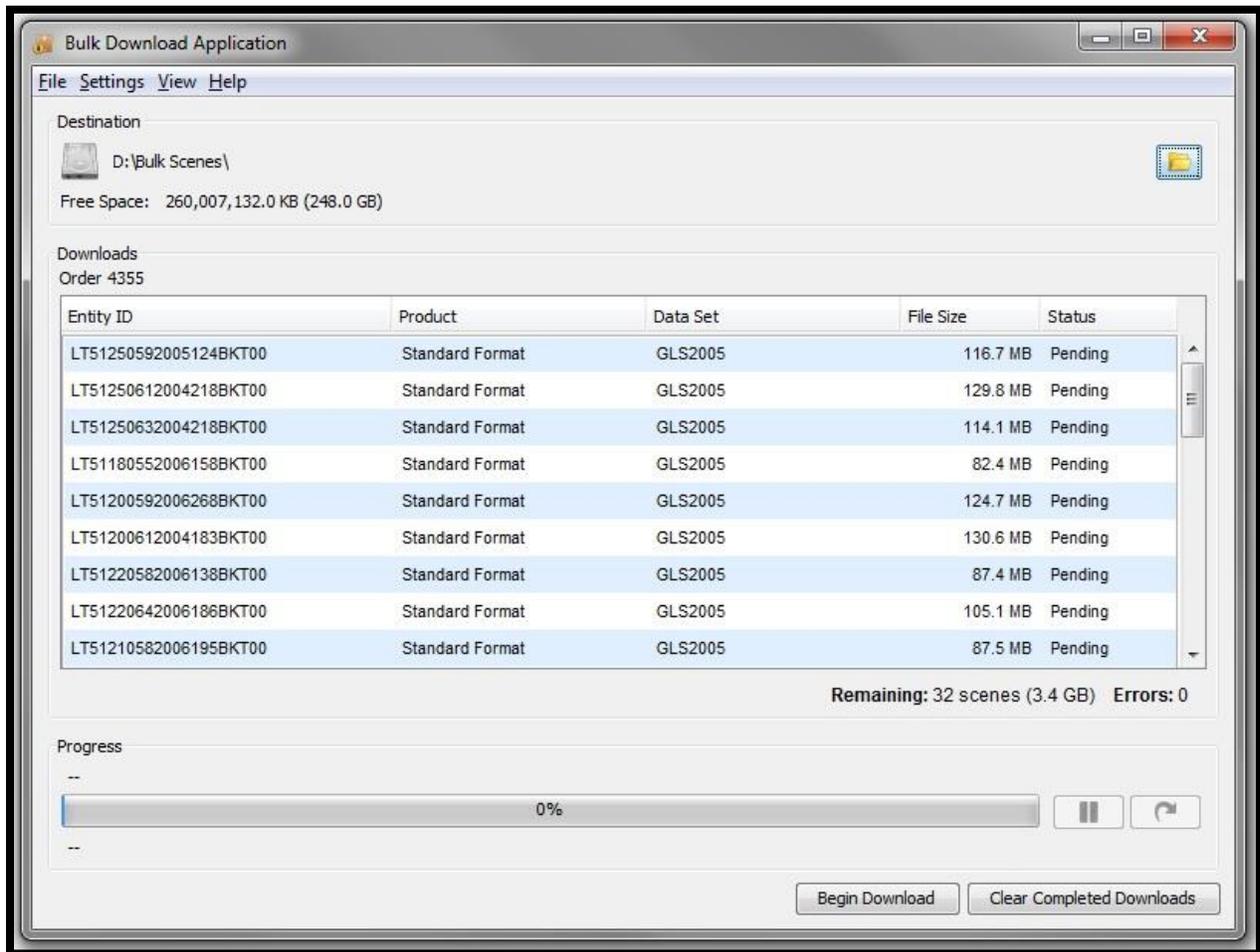


Figure 30 - BDA Download Screen

## VI. Menu Descriptions

There are a number of functions available from the BDA; these are described in this section.

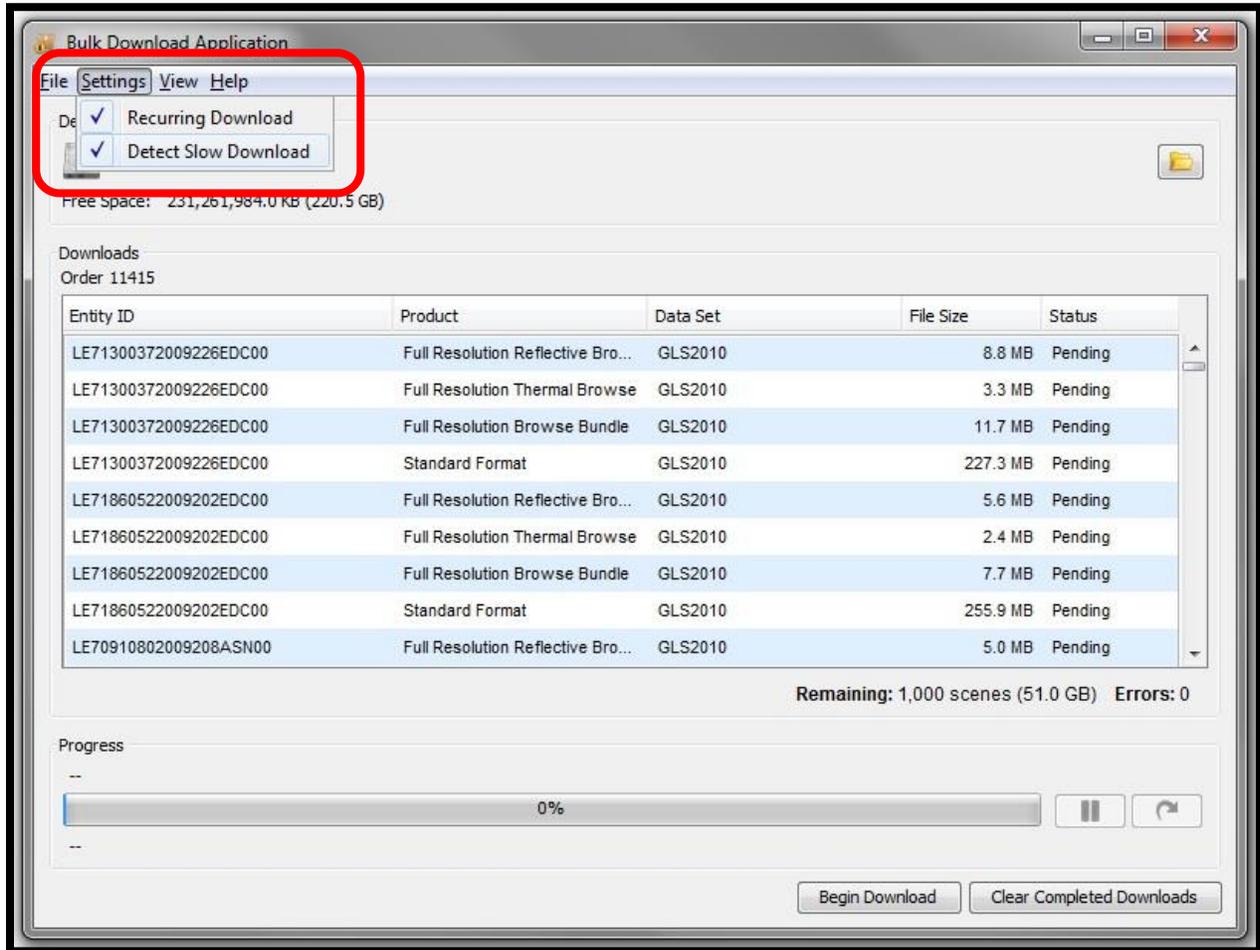


Figure 31 - BDA Settings Options

The Settings menu shows two options: Recurring Download and Detect Slow Download.

**Recurring Download** - Upon reaching the end of the scene list, the application will wait 10 minutes and then automatically retry any downloads that did not complete properly.

**Detect Slow Download** - If a connection becomes stale and the download speed drops to below 10.0 KBps, the application will move on to the next download in the scene list. This option should be disabled if users have Internet connections slower than 10 KBps.

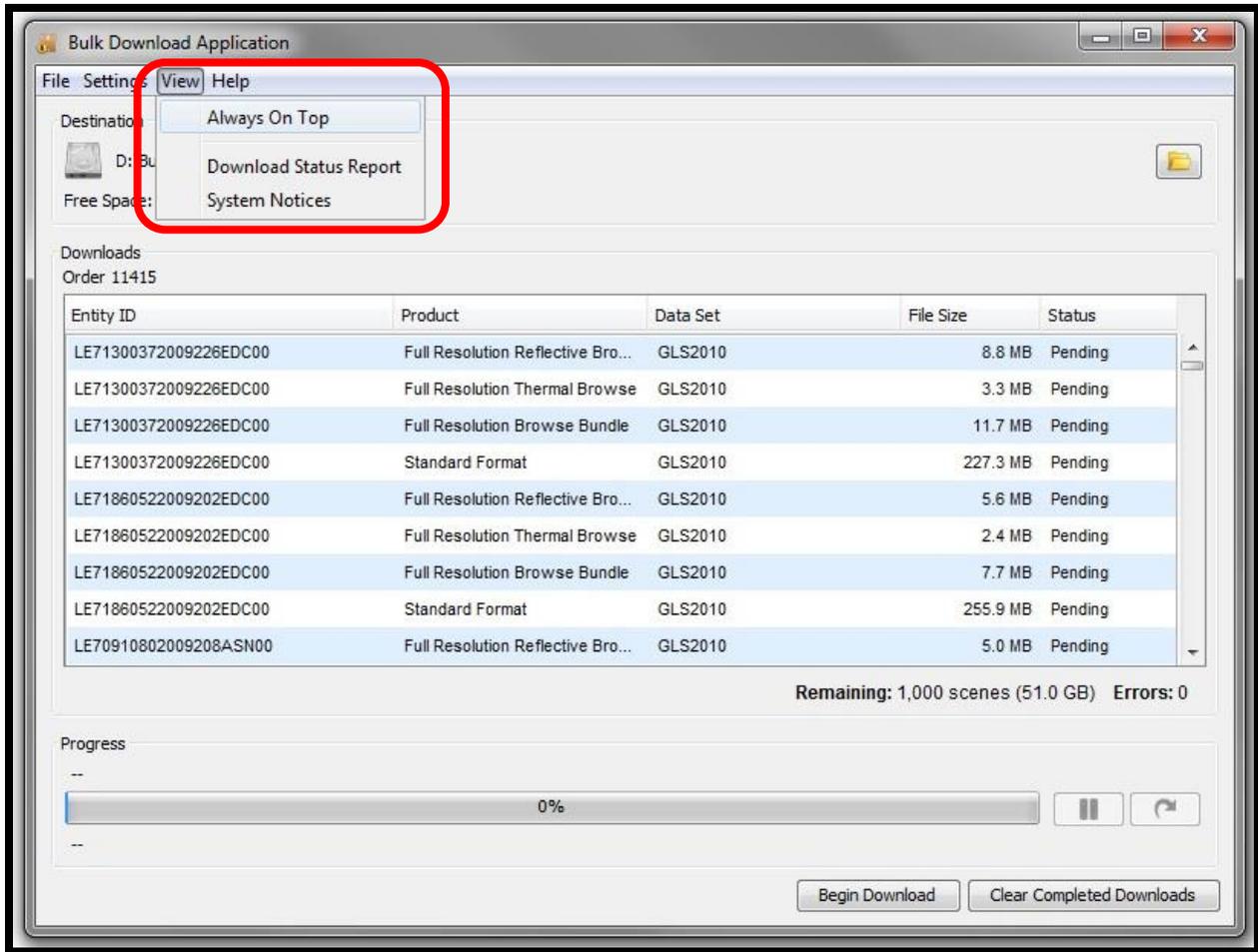


Figure 32 - BDA View Options

The View menu provides these options: Always on Top, Download Status Reports, and System Notices.

Always On Top - Keep the BDA window visible and on top of other windows regardless of other applications currently open.

Download Status Reports - Provides a listing of scenes for each order (See Figure 33 - Download Status Report)

System Notices - Notices regarding BDA system status

Download Status Report

Settings

Row	Entity ID	Product	Data Set	File Name
1	LE71300372009226EDC00	Full Resolution Reflective Browse	GLS2010	(File name not yet retrieved)
2	LE71300372009226EDC00	Full Resolution Thermal Browse	GLS2010	(File name not yet retrieved)
3	LE71300372009226EDC00	Full Resolution Browse Bundle	GLS2010	(File name not yet retrieved)
4	LE71300372009226EDC00	Standard Format	GLS2010	(File name not yet retrieved)
5	LE71860522009202EDC00	Full Resolution Reflective Browse	GLS2010	(File name not yet retrieved)
6	LE71860522009202EDC00	Full Resolution Thermal Browse	GLS2010	(File name not yet retrieved)
7	LE71860522009202EDC00	Full Resolution Browse Bundle	GLS2010	(File name not yet retrieved)
8	LE71860522009202EDC00	Standard Format	GLS2010	(File name not yet retrieved)
9	LE70910802009208ASN00	Full Resolution Reflective Browse	GLS2010	(File name not yet retrieved)
10	LE70910802009208ASN00	Full Resolution Thermal Browse	GLS2010	(File name not yet retrieved)
11	LE70910802009208ASN00	Full Resolution Browse Bundle	GLS2010	(File name not yet retrieved)
12	LE70910802009208ASN00	Standard Format	GLS2010	(File name not yet retrieved)
13	LE71650342009199ASN00	Full Resolution Reflective Browse	GLS2010	(File name not yet retrieved)
14	LE71650342009199ASN00	Full Resolution Thermal Browse	GLS2010	(File name not yet retrieved)
15	LE71650342009199ASN00	Full Resolution Browse Bundle	GLS2010	(File name not yet retrieved)
16	LE71650342009199ASN00	Standard Format	GLS2010	(File name not yet retrieved)
17	LE71480292009192ASN00	Full Resolution Reflective Browse	GLS2010	(File name not yet retrieved)
18	LE71480292009192ASN00	Full Resolution Thermal Browse	GLS2010	(File name not yet retrieved)

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Figure 33 - Download Status Report

Bulk Download Application

File Settings View Help

Destination: D:\Bulk Scenes  
Free Space: 231,261,984.0 KB (220.5 GB)

Downloads Order 11415

Entity ID	Status
LE7130037200922	Pending
LE7186052200920	Pending
LE7091080200920	Pending

Remaining: 1,000 scenes (51.0 GB) Errors: 0

Progress: 0%

Buttons: Begin Download, Clear Completed Downloads

About Bulk Download Application

**Bulk Download Application**  
Version: 1.0.4.4

Windows 7 (build 6.1, x86)  
Java version "1.7.0\_67"  
Java(TM) SE Runtime Environment (build 1.7.0\_67-b01)  
Java HotSpot(TM) Client VM (build 24.65-b04, mixed mode, sharing)

OK

Figure 34 - About BDA

## **VII. Appendix**

### **A. Acronyms**

BDA - Bulk Download Application  
EE - EarthExplorer  
EROS - Earth Resources Observation and Science  
GloVis - Global Visualization Viewer  
HDDS - Hazards Data Distribution System  
USGS - United States Geological Survey

### **B. System requirements**

Following are the hardware and software requirements required to use the EE client:

- Hardware Requirements - Windows
  - 233mhz processor - 2Ghz or better recommended
  - Minimum of 256MB RAM - 4GB recommended
  - Minimum of 20GB of free space - 100GB recommended
  - Display capable of 800x600 with 256 colors, with 32MB of video RAM
  - Mouse
  - Keyboard
- Hardware Requirements - Apple Mac
  - Intel x86 or PowerPC G3, G4, or G5 - 2Ghz or better recommended
  - Minimum of 256MB RAM, 4GB recommended
  - Minimum of 20GB of free space, 100GB recommended
  - Display capable of 800x600 with 256 colors, with 32MB of video RAM
  - Mouse
  - Keyboard
- Hardware Requirements - Linux
  - Intel x86 or 2Ghz or better recommended
  - Minimum of 256MB RAM, 4GB recommended
  - Minimum of 20GB of free space, 100GB recommended
  - Display capable of 800x600 with 256 colors, with 32MB of video RAM
  - Mouse
  - Keyboard
- Network Requirements
  - Broadband connection 1.5Mbps
  - 3G network will impact display speed
  - Port 4448 is open to the Internet
- Software Requirements
  - Operating System: Windows XP, Windows Vista, Windows 7, Windows Server 2000, Windows Server 2003, Windows Server 2008
  - Mac OS X
  - Unix
  - Linux
  - Solaris
  - Sun Java 6 JRE

## C. Warning Messages and Errors

*Cannot connect to the download service.* - Please verify with your network service or firewall software that port 4448 is open to the Internet.

*Read timed out* - Communication between the file server and the client's computer ceased, causing the server to time out the connection.

*Preparing File* - The file is being staged on the mass storage system or there are not enough open slots for your download to begin. The client will check periodically for the file to try again.

*Invalid Destination* - The user does not have permission to write to the directory chosen.

*Another instance is already running* - The user is connected to the Bulk Download Server via another client on another computer. The user may choose to disconnect their previous client and start a fresh connection.

*The bulk download service is unavailable at this time.* - The Bulk Download Server is not available to accept incoming connections or requests.

*There is not enough free space to download the scene X.* - The download location on the user's computer does not have enough free space to save the next file.

*You do not have permission to access the download for scene X on this server.* - It will be skipped. The permissions on the server forbid the download of this file.

*URL is null. The download will be skipped.* - The Bulk Download Server did not provide a valid URL to access the file.

*The download for scene X does not exist.* It will be skipped. - There is no file at the specified URL on the file server.

*The content header is missing for the scene X. Please notify customer service ([custserv@usgs.gov](mailto:custserv@usgs.gov)) about this scene.* - There is a data issue with this file that needs to be corrected on the file server.

*Unable to reconnect to the Bulk Server in 5 attempts. The application will close.* - The client attempted to automatically reconnect itself to the Bulk Download Server but the server is no longer responding, meaning it is likely shut down for some reason.

*The bulk download service is unavailable at this time. Please try again later.* - The Bulk Download Server is not currently running.