



Land Remote Sensing Data Access Workshop

Global Data Explorer (GDEx)

Use Cases

March 13-14, 2012

USGS National Training Center, Building 53, Denver Federal Center, Denver, CO

U.S. Department of the Interior

U.S. Geological Survey

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Global Data Explorer Use Cases

GDEX Use Case 1: Get ASTER GDEM and SRTM 90m for an Area of Interest

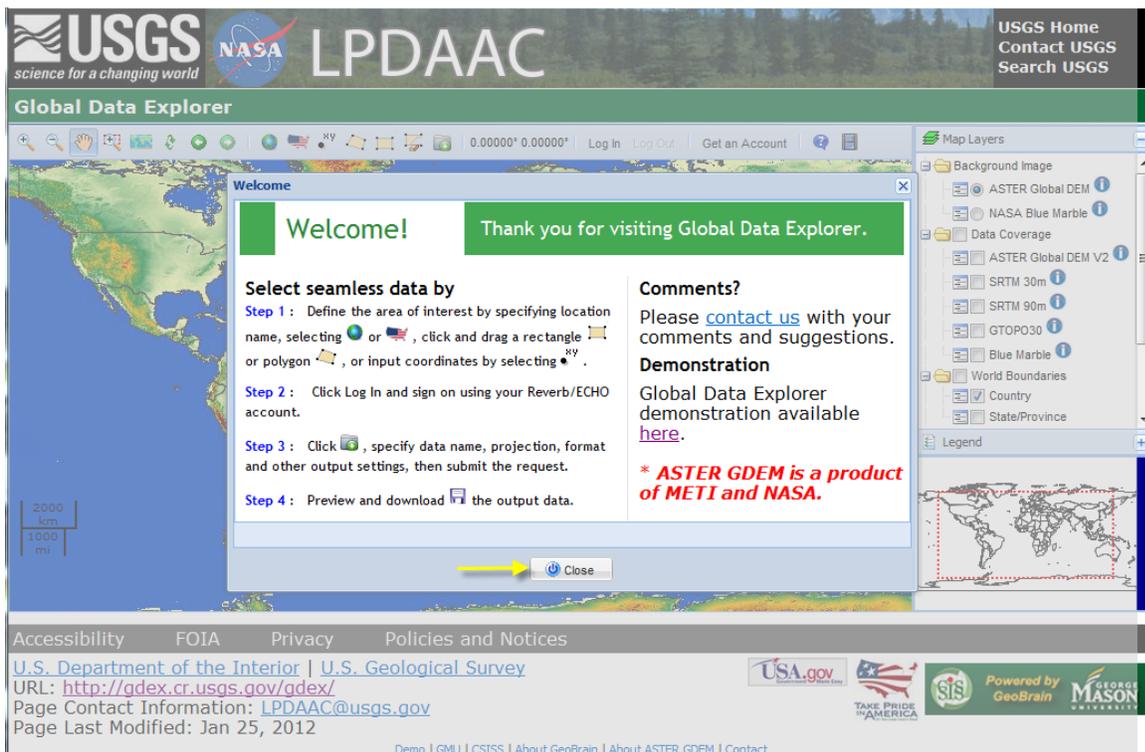
1.1. Open a browser window and navigate to the Global Data Explorer (GDEX) site:

gdex.cr.usgs.gov



An overview of steps and Demo are available.

1.2. Click Close on the Welcome! Box.

The screenshot shows the Global Data Explorer (GDEX) website interface. At the top, there are logos for USGS (science for a changing world), NASA, and LPDAAC. The main header is "Global Data Explorer". Below the header, there is a navigation bar with "Log In", "Log Out", and "Get an Account" links. The main content area features a "Welcome" box with a green header and a "Close" button. The "Welcome" box contains the following text: "Welcome! Thank you for visiting Global Data Explorer." followed by "Select seamless data by" and four numbered steps: Step 1: Define the area of interest by specifying location name, selecting a globe icon or a flag icon, click and drag a rectangle or polygon, or input coordinates by selecting a star icon. Step 2: Click Log In and sign on using your Reverb/ECHO account. Step 3: Click a gear icon, specify data name, projection, format and other output settings, then submit the request. Step 4: Preview and download a folder icon the output data. To the right of the steps is a "Comments?" section with the text "Please contact us with your comments and suggestions." and a "Demonstration" section with the text "Global Data Explorer demonstration available here." and a red asterisk followed by "ASTER GDEM is a product of METI and NASA." Below the "Welcome" box is a "Map Layers" panel with a list of layers: Background Image, ASTER Global DEM, NASA Blue Marble, Data Coverage, ASTER Global DEM V2, SRTM 30m, SRTM 90m, GTOPO30, Blue Marble, World Boundaries, Country, and State/Province. At the bottom of the page, there is a footer with links for "Accessibility", "FOIA", "Privacy", and "Policies and Notices". The footer also includes the U.S. Department of the Interior and U.S. Geological Survey logos, the URL "http://gdex.cr.usgs.gov/gdex/", page contact information "LPDAAC@usgs.gov", and the page last modified date "Jan 25, 2012". There are also logos for USA.gov, Take Pride in America, and GeoBrain.

1.3. Login with your NASA ECHO/Reverb username and password

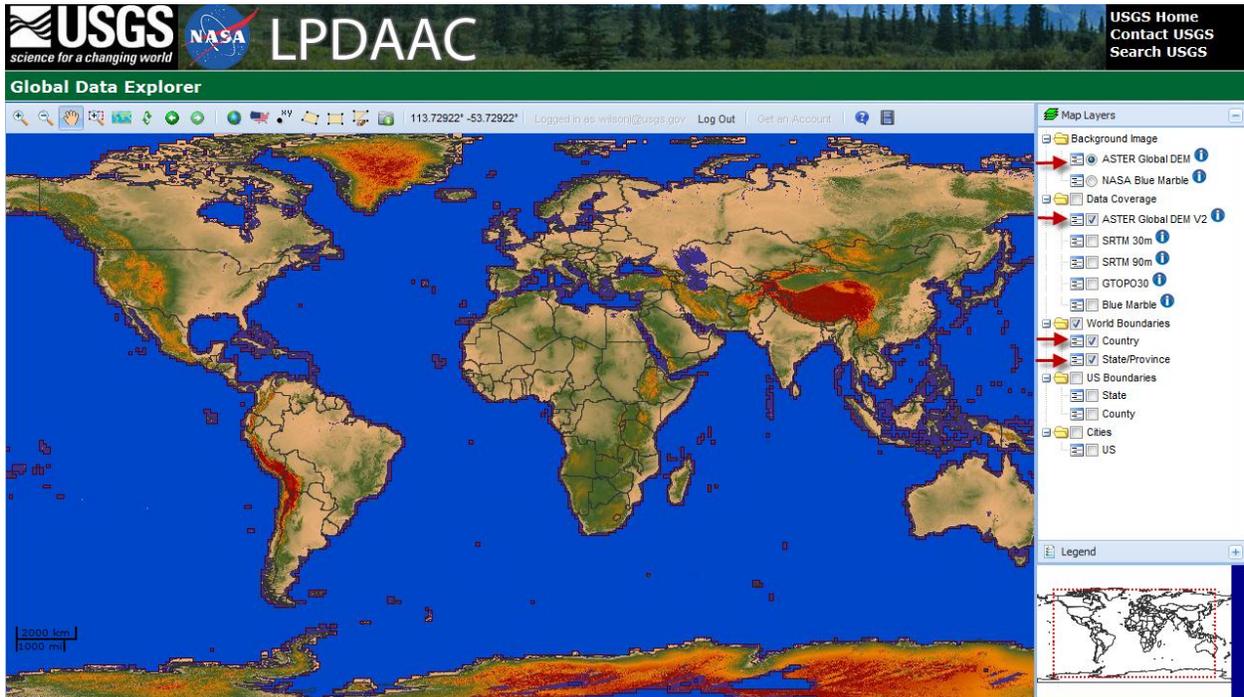
The screenshot displays the USGS LPDAAC Global Data Explorer web application. At the top, the USGS and NASA logos are visible alongside the text "LPDAAC" and "USGS Home Contact USGS Search USGS". The main interface features a world map with a color-coded elevation or topographic overlay. A central dialog box titled "Log in with your Reverb/ECHO account" is open, containing fields for "Username:" (with the text "Example") and "Password:" (masked with dots), and "Login" and "Cancel" buttons. To the right of the map is a "Map Layers" panel with a tree view of data layers, including "Background Image", "Data Coverage", "World Boundaries", and "USA Boundaries". A "Legend" panel is also visible at the bottom right. The footer contains navigation links such as "Accessibility", "FOIA", "Privacy", and "Policies and Notices", along with contact information for the U.S. Department of the Interior and U.S. Geological Survey, and logos for USA.gov, STS, and GeoBrain.

U.S. Department of the Interior | U.S. Geological Survey
URL: <http://demex.cr.usgs.gov/DEMEX/>
Page Contact Information: LPDAAC@usgs.gov
Page Last Modified: 10/17/2011

Demo | GMU | CSISS | About GeoBrain | About ASTER GDEM | Contact

1.4. Set up your map display options.

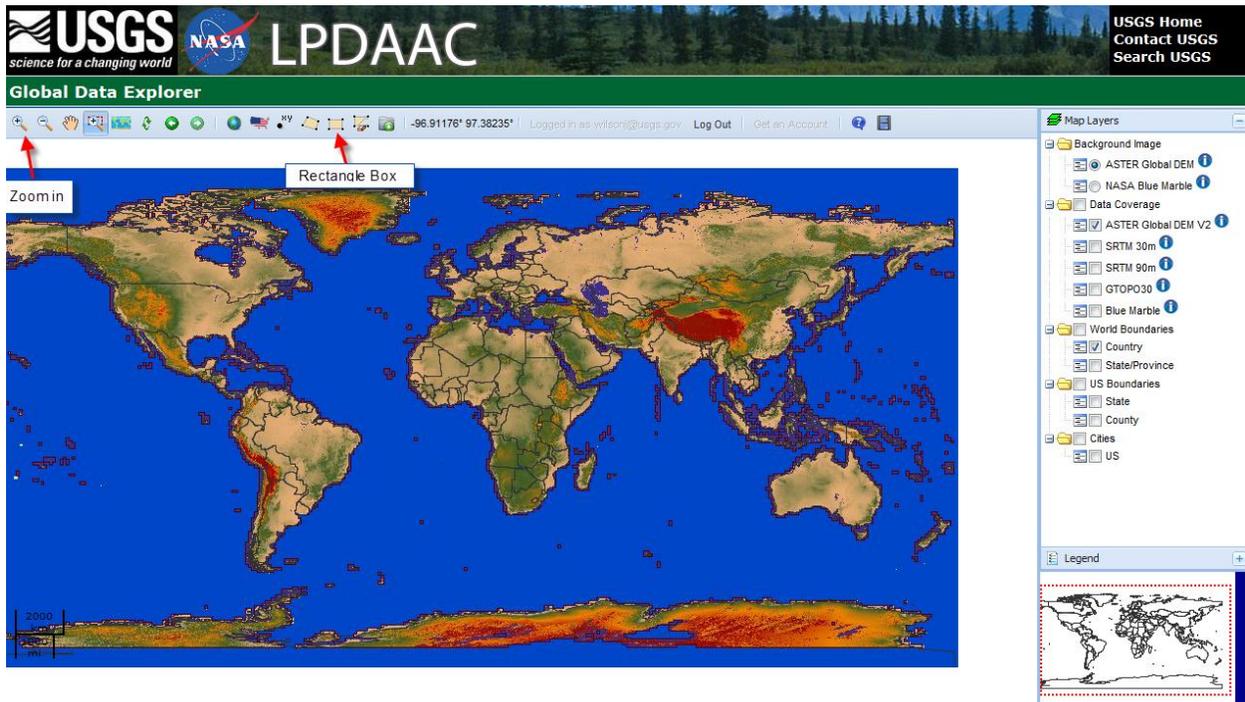
- Background Image defaults to ASTER Global DEM
- Select ASTER GDEM 30m located under the Data Coverage folder.
- Select Country and State/Province under World Boundaries



Notice the background layer changes on the map when you change map layers.

1.5. Then, select your area of interest:

- You can use the Dragbox Zoom In button or Define Area by Polygon, Rectangle or by Inputting Coordinates



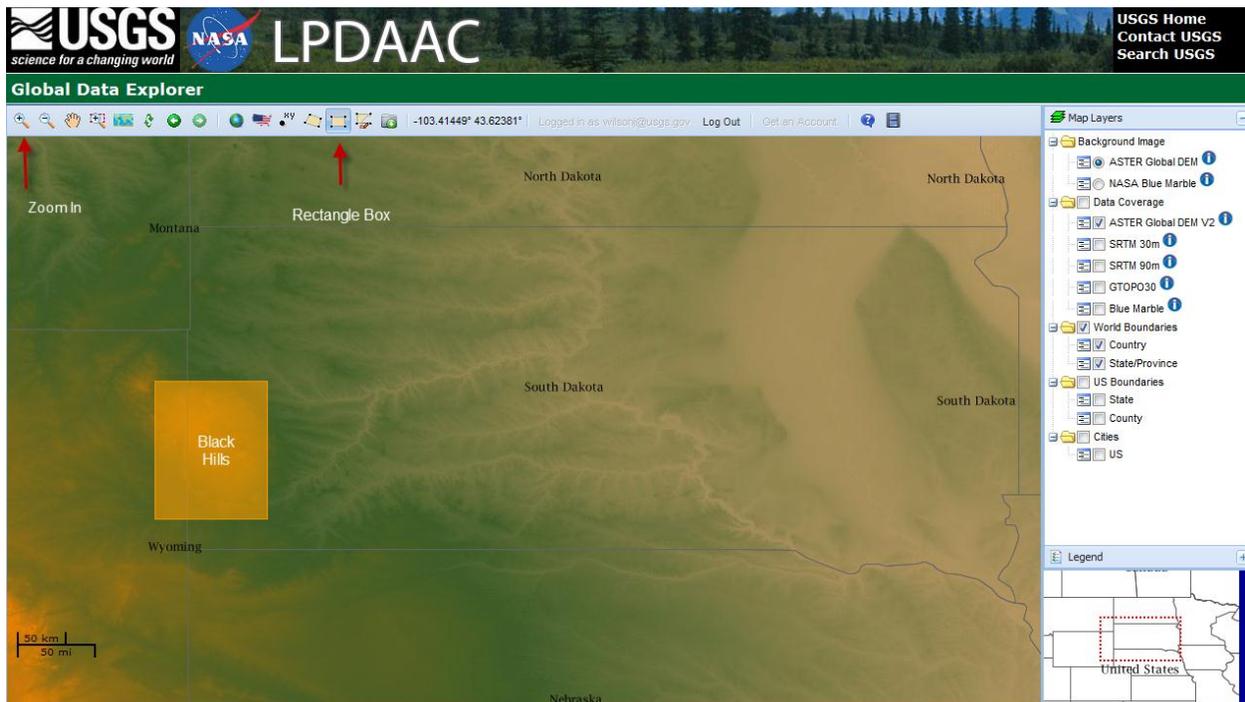
In this exercise we chose the Zoom In and pan to the United States



When using the *Define Rectangle Area* in selecting a small area, please note that due to current system configuration, the maximum size selected must be slightly smaller than the state of South Dakota.

1.6. Zoom to the United States and pan over to the South Dakota State.

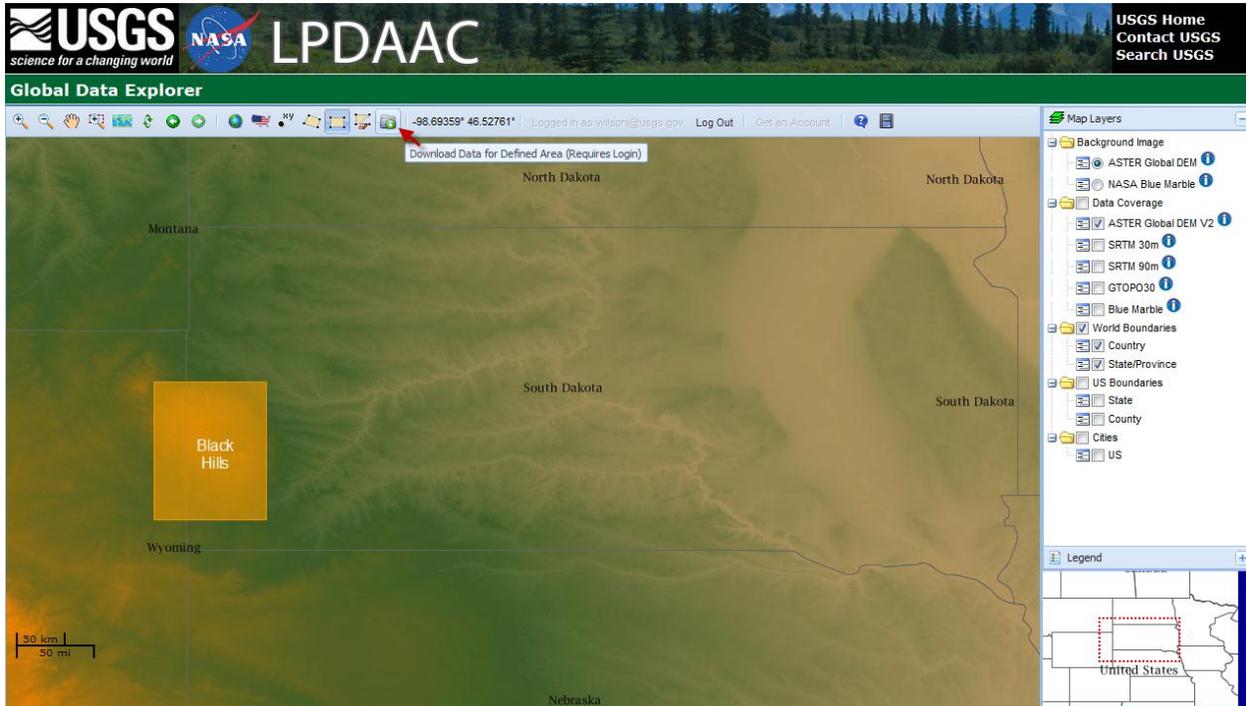
1.7. Once Zoomed in click on the rectangle box on the tool bar and draw a box in the lower left side of the SD state where the Black Hills are located.



Everyone's AOI will be a little different using the Define by Rectangle Box.

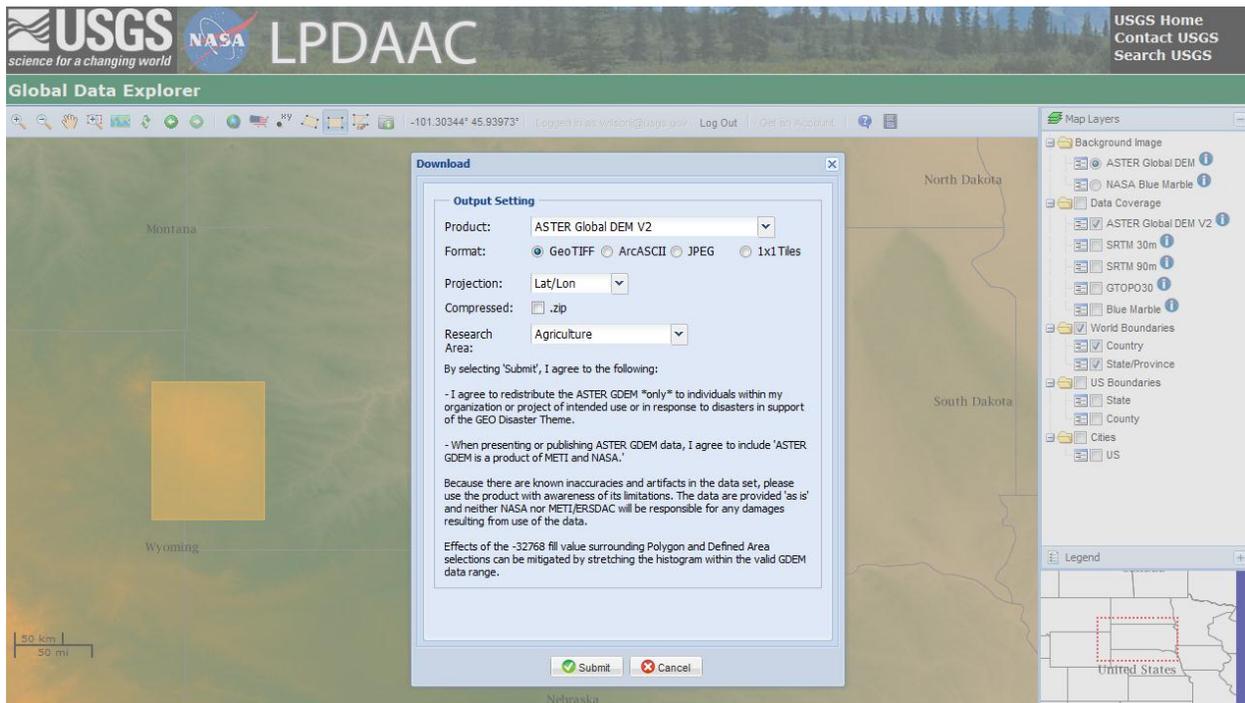
(Next to Define Rectangle Box there is a Clear Defined Area icon.)

1.8. Click the icon labeled “Download Data for Defined Area”



1.9. When the download box pops-up, select one of the required Output Settings that include the following:

- Product
- Format
- Projection
- Compression
- Policy Agreements

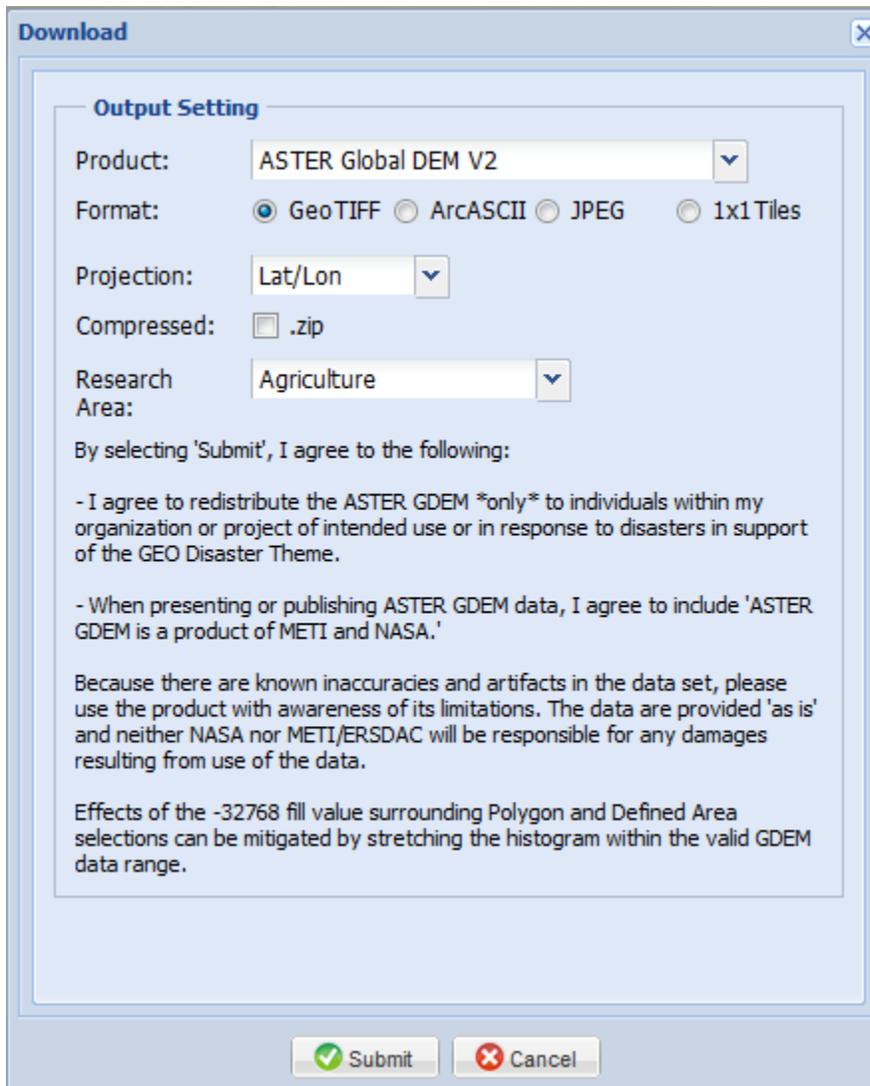




Required Fields

- Product Options
 - ASTER Global DEM
 - SRTM 90m
 - SRTM 30m
 - GTOPO30
 - Monthly Blue Marble Images
- Submit Settings
 - SRTM 90m
 - ArcASCII
 - UTM Zone 33
- Research Area
 - Disasters
 - Health
 - Climate
 - Water
 - Weather
 - Ecosystems
 - Agriculture
 - Biodiversity

1.10. Then review the agreement before clicking on Submit.



The screenshot shows a 'Download' dialog box with the following settings:

- Product: ASTER Global DEM V2
- Format: GeoTIFF ArcASCII JPEG 1x1 Tiles
- Projection: Lat/Lon
- Compressed: .zip
- Research Area: Agriculture

By selecting 'Submit', I agree to the following:

- I agree to redistribute the ASTER GDEM *only* to individuals within my organization or project of intended use or in response to disasters in support of the GEO Disaster Theme.
- When presenting or publishing ASTER GDEM data, I agree to include 'ASTER GDEM is a product of METI and NASA.'

Because there are known inaccuracies and artifacts in the data set, please use the product with awareness of its limitations. The data are provided 'as is' and neither NASA nor METI/ERSDAC will be responsible for any damages resulting from use of the data.

Effects of the -32768 fill value surrounding Polygon and Defined Area selections can be mitigated by stretching the histogram within the valid GDEM data range.

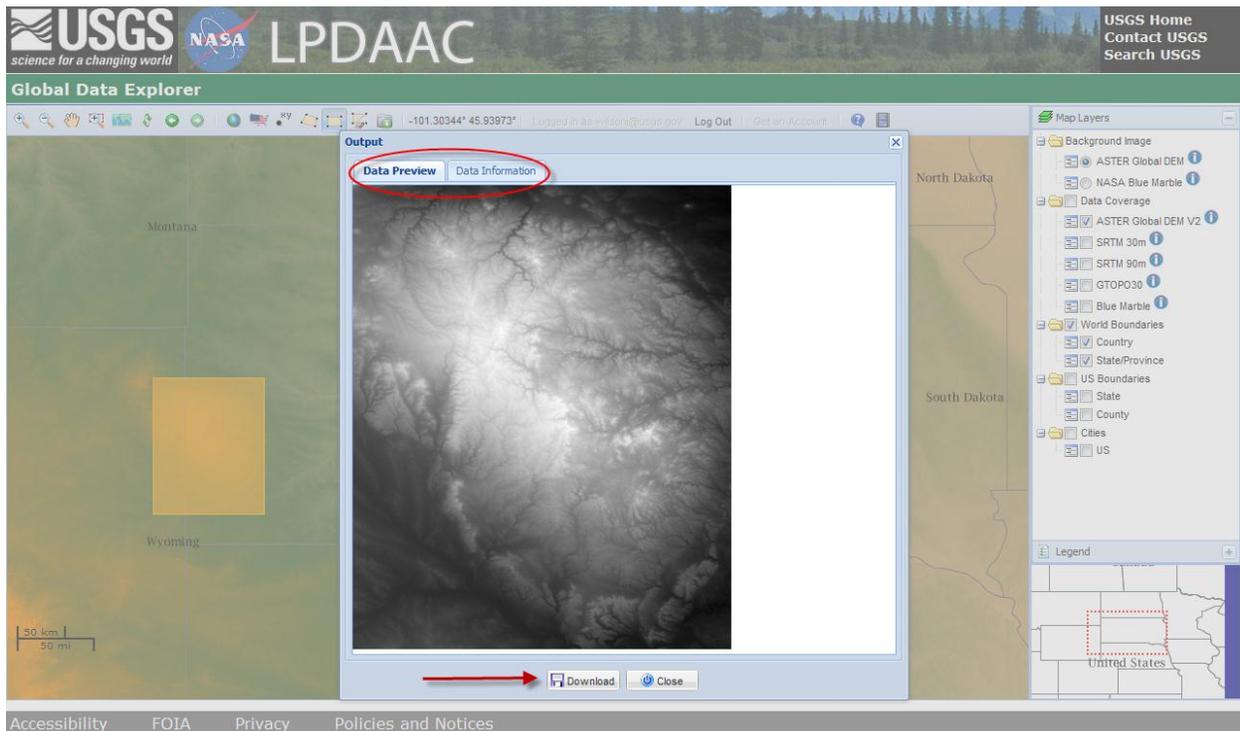
Buttons:



A Read me file available with 1x1 tile degree tiles selection

Once the requested data have processed, another pop-up window will display a data preview of your selection with a tab containing additional data details. When ready to begin the download, click the download button or view the Data Information tab first.

- Output Window
 - Data Preview
 - Data Information





Data Information Tab

- URL for download
- Columns/Rows
- Bounding Box
- Elevation Statistics

The screenshot displays the USGS Global Data Explorer interface. The top navigation bar includes the USGS logo with the tagline "science for a changing world", the NASA logo, and the text "LPDAAC". On the right side of the header, there are links for "USGS Home", "Contact USGS", and "Search USGS". The main interface features a map of the United States with a red dashed bounding box over a region in Wyoming. A scale bar indicates 50 km and 50 mi. An "Output" window is open, showing the "Data Information" tab. This window contains the following data:

URL			
URL:	http://gdex.cr.usgs.gov/geoportal_data_cache/20120229142348_663365654		

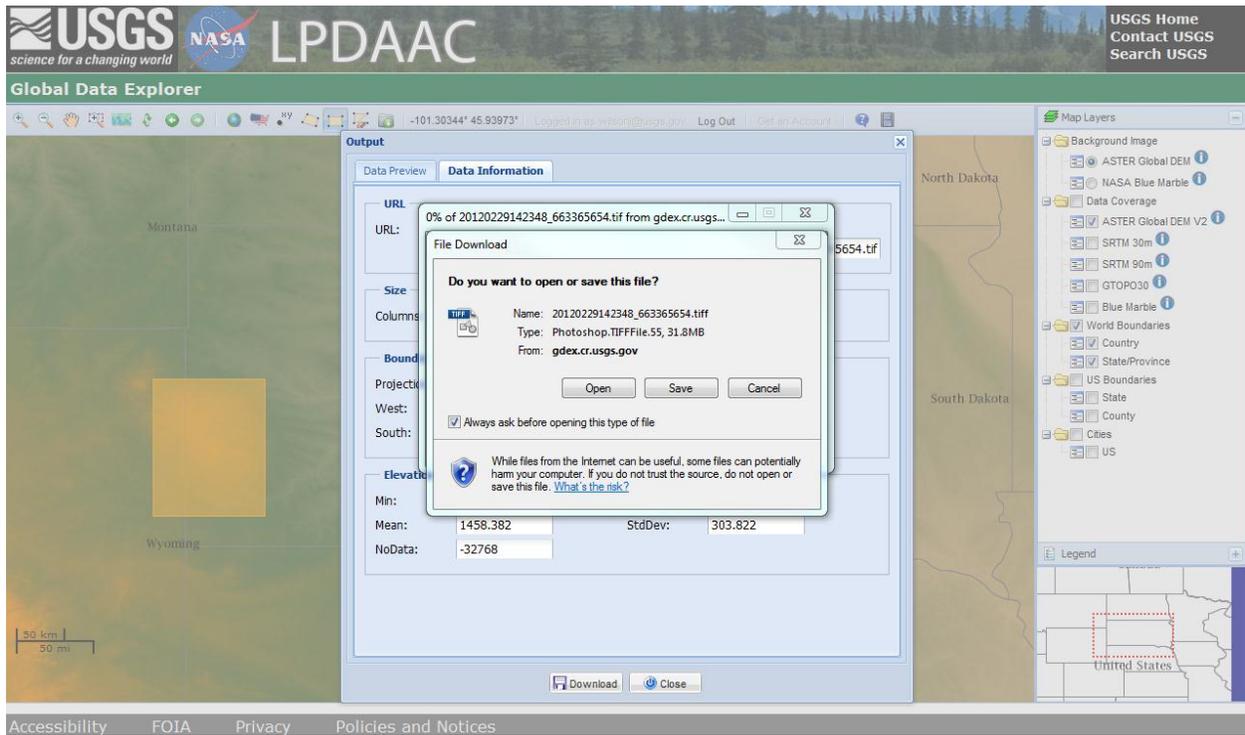
Size			
Columns:	3688	Rows:	4521

Bounding Box			
Projection:	WGS 84		
West:	-104.331948	East:	-103.307601
South:	43.276425	North:	44.532363

Elevation			
Min:	852	Max:	2203
Mean:	1458.382	StdDev:	303.822
NoData:	-32768		

At the bottom of the "Output" window, there are "Download" and "Close" buttons. A red arrow points to the "Download" button. The background map shows the states of Montana, Wyoming, North Dakota, and South Dakota. The "Map Layers" panel on the right lists various data layers, including "ASTER Global DEM V2", "SRTM 30m", "SRTM 90m", "GTOPO30", "Blue Marble", "World Boundaries", "Country", "State/Province", "US Boundaries", "State", "County", "Cities", and "US". A legend is also visible at the bottom right of the map area.

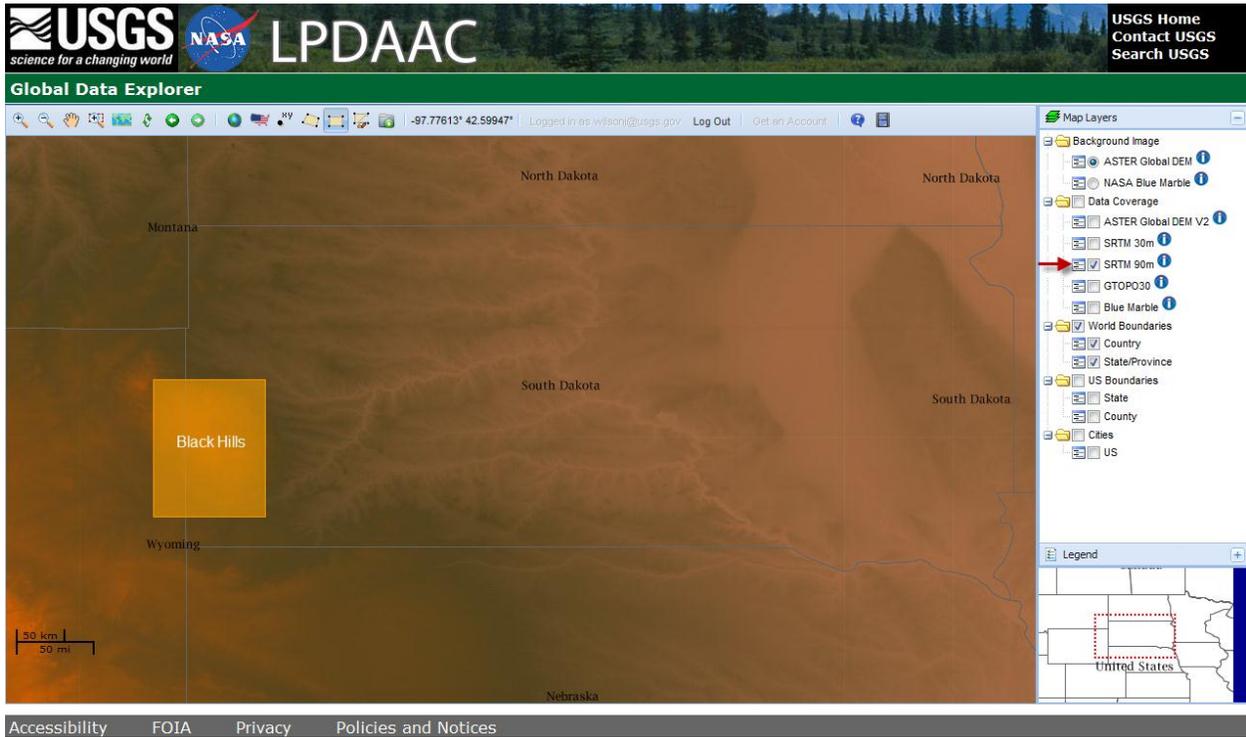
1.11. Click the Download button window that displays to save the data to your computer.



1.12. Return to Display

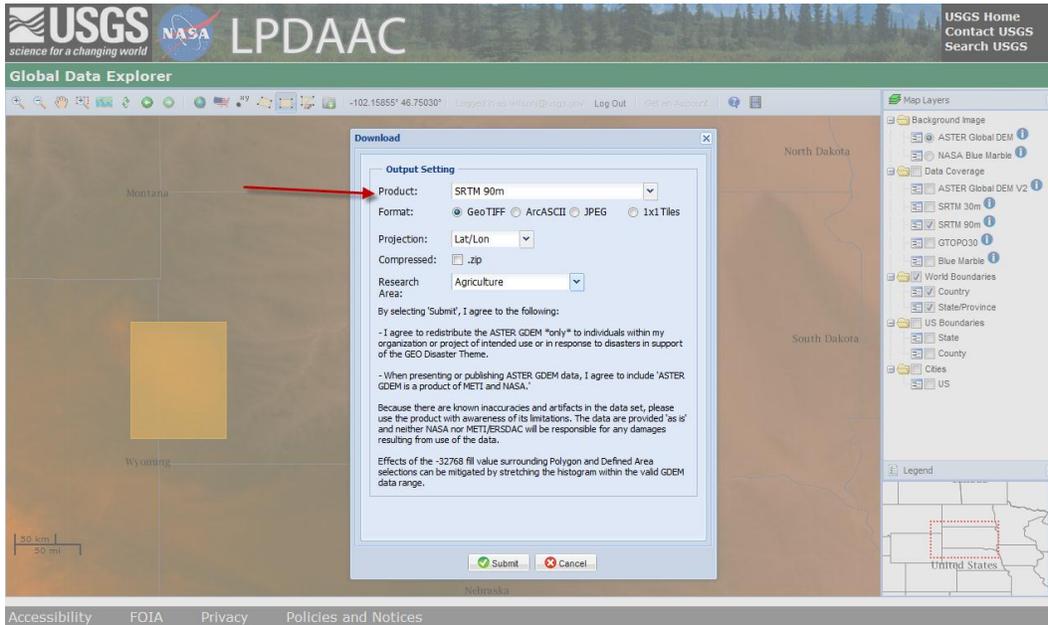
1.13. Close Output Box from this exercise but do not close the GDE window

1.14. Change Data Coverage to SRTM 90m



Note: AOI is still available from previous area selected to search other Data Coverage

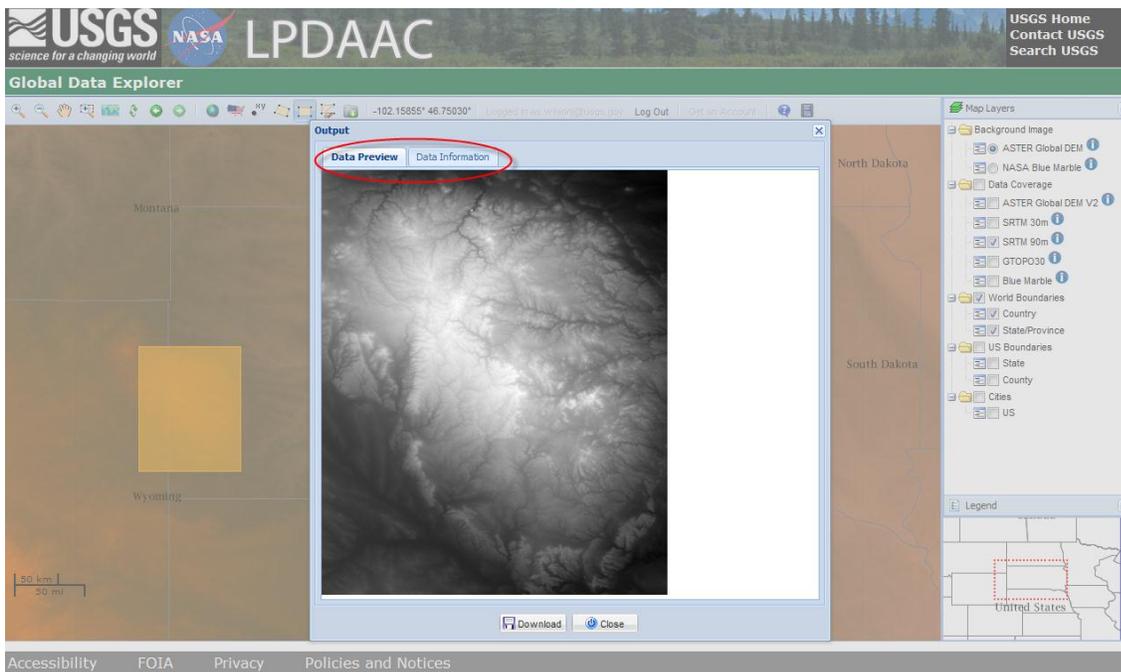
1.15. Repeat steps 1.9 but change Product to SRTM 90m and required fields.



Required Fields

1.16. Click Submit

1.17. Preview Output Information (Data Preview and Data Information)



1.18. Download Data

The screenshot displays the USGS Global Data Explorer (GDEX) interface. At the top, the USGS and NASA logos are visible, along with the text "LPDAAC" and "Global Data Explorer". The interface includes a search bar, a map of the United States, and a "Map Layers" panel on the right. The "Output" dialog box is open, showing the following information:

- URL:** `http://gdex.cr.usgs.gov/geoportal_data_cache/20120229145354_1490294525`
- Size:** Columns: 1229, Rows: 1507
- Bounding Box:** Projection: WGS 84, West: -104.331948, East: -103.307601, South: 43.276425, North: 44.532363
- Elevation:** Min: 865, Max: 2192, Mean: 1461.681, StdDev: 305.028, NoData: -32768

A red arrow points to the "Download" button at the bottom of the dialog box. The "Map Layers" panel on the right shows various data layers, including "Background Image", "Data Coverage", "World Boundaries", and "US Boundaries". The "Legend" panel at the bottom right shows a map of the United States with a red dashed box indicating the data area.

This concludes GDEX Use Case 1.