

LiDAR data is Big Data. Indeed, many of the individual project files on the GIS TReC's spatial library are over 50GB in size! To aid downloading these data the GIS TReC uses Globus to enable accelerated download capabilities from our LiDAR data server.

If you have already installed and created a Globus Connect Personal endpoint, please check that it is the latest version of the software. If it is, you may skip to Step 3.

TO USE GLOBUS:

1. Access the Globus Web App at <https://app.globus.org>.
2. There are various ways you can authenticate (log in) to Globus:
 - a. Use your existing organizational login (see the associated pulldown menu on the Globus Log in page to determine if your organization is one of them)
 - b. Use your Google ID (see the button at the bottom left of the Globus Log in page)
 - c. Use an ORCID (see the button at the bottom right of the Globus Log in page).
 - d. If you do not have an existing account with any of these identity providers, you may create a GlobusID by visiting <https://www.globusid.org>. To authenticate to the Globus Web App with a GlobusID, use the "Then use Globus ID to sign in" text link, below the pull down institutional menu on the Globus Log in page.
3. Download and install Globus Connect Personal following the instructions here <https://docs.globus.org/how-to/globus-connect-personal-windows>.

Some notes on the installation:

- After the software is installed, you will be asked to Log In. You will use your Globus account credentials to log in if you are not already logged in.
- A web page will open asking for your authorization to create a collection, as seen below.

Globus Connect Personal Setup would like to:

- View identity details ⓘ
- View your identity ⓘ
- View information about your linked identities ⓘ
- Create Globus Connect Personal collections in the Globus Transfer service ⓘ

Provide a label for future reference

My Globus Collection

You can rescind this consent at any time by visiting the [Manage Consents](#) page.

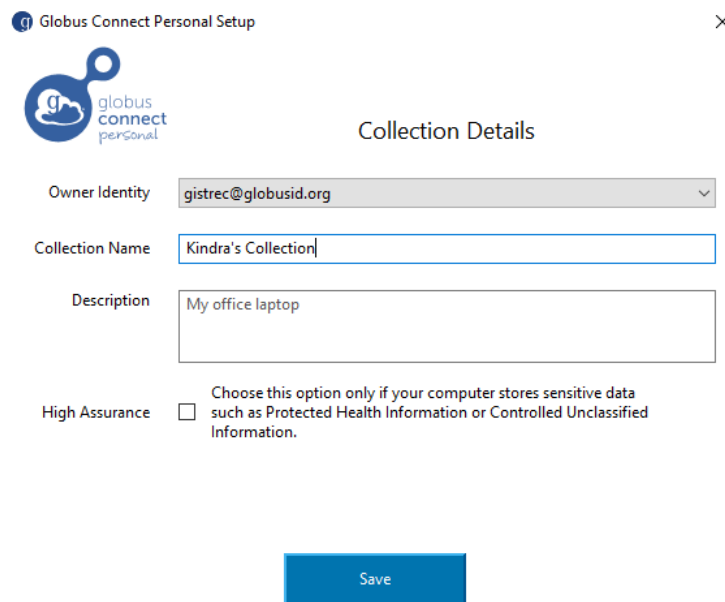
By clicking "Allow", you allow **Globus Connect Personal Setup**, in accordance with its [terms of service](#) and [privacy policy](#), to use the above listed information and services.

Allow

Deny

This is just a label for your consent form. The form is stored under your Globus account.

- The next screen below will appear:



The screenshot shows a web form titled "Globus Connect Personal Setup" with a close button (X) in the top right corner. The form is for "Collection Details" and includes the following fields:

- Owner Identity:** A dropdown menu with the value "gistrec@globusid.org".
- Collection Name:** A text input field containing "Kindra's Collection".
- Description:** A text input field containing "My office laptop".
- High Assurance:** A checkbox that is currently unchecked. Below it is a note: "Choose this option only if your computer stores sensitive data such as Protected Health Information or Controlled Unclassified Information."

At the bottom center of the form is a blue "Save" button.

This creates a “receiving” collection on your desktop workstation. This collection will not be visible to anyone save for yourself unless you make it shareable. Be sure to document the label for **your Globus Personal Connect Collection** as you will be using it later.

- Review the Configuration section of the Globus Personal Connect setup. This will show you how to view the destination folder set on your computer to allow Globus to write files on your hard drive (by default this is your Documents folder). Make sure the folder where you are writing the file(s) TO on your desktop workstation is truly accessible and writable.

For help on creating an account, you will need to contact Globus directly by visiting <https://support.globus.org/hc/en-us/requests/new>


ONCE SETUP, USE THE FOLLOWING STEPS TO DOWNLOAD LIDAR DATA FROM THE GIS TREC SERVERS

4. Make sure Globus Connect Personal is running on your PC.
5. If not already logged in, log in to Globus at <https://www.globusonline.org/>
6. Open a new tab on your web browser and navigate to the [Idaho Lidar Web Viewer](#)
 - a. From this interactive and current web map, zoom and pan as needed to locate an area of interest that contains lidar data (shown in varying shades of purple).
 - b. Click an area of interest polygon
 - c. A pop-up window will appear with details about the specific lidar collection¹

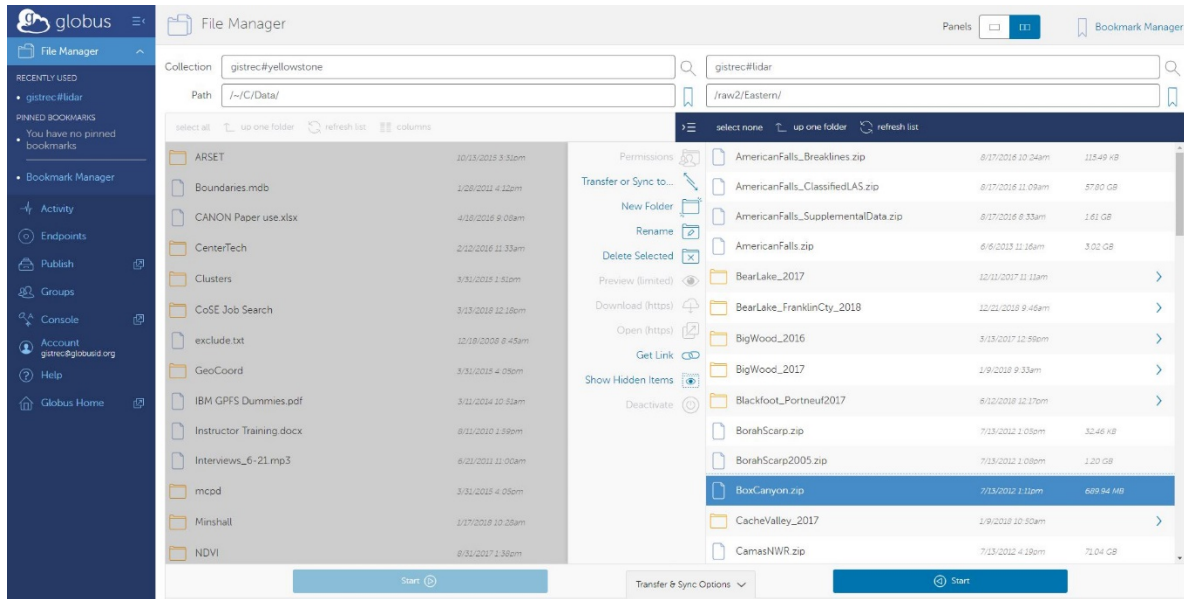
¹ If you select multiple polygons, you can view each of your selections by clicking the NEXT arrow in the pop-up window
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| Big Wood 2016 | |
|-------------------------|------------------------------|
| Name | Big Wood 2016 |
| Status | Completed |
| View metadata | More info |
| Quality Level | QL1 |
| Download raw data | More info |
| Download processed data | More info |
| Date Delivered | 2016 |
| Sponsoring agency | Boise State University (BSU) |
| Acreage of area | 134569 |

Since lidar data is so large and downloading these data takes significant time to complete, we suggest viewing the metadata before proceeding. To do this, just click the link to the right of View Metadata.

- d. To download raw lidar data for this collection, click the *More info* link to the right of Download raw data. Raw data consists of LAS files, vector GIS layers, metadata, and reports.
 - e. To download processed lidar data for this collection, click the *More info* link to the right of Download processed raw data. Processed data consists of raster layers (bare earth (be), highest hit (hh), and intensity (int) imager data), metadata, and reports.
7. After clicking one of the download links, your browser will open/re-open the Globus service.
 - a. On the window on the left side of the screen, navigate to the folder where you would like these lidar data saved².
 - b. Once you have located the data file(s) you wish to download, select it (note: all data is packaged within ZIP files to further enhance download performance).
 - c. Provide a descriptive Label for this transfer if desired by clicking Transfer & Sync Options button at the bottom of the screen (optional, but handy).
 8. Click the Start button  at the bottom of the screen to begin the data transfer request FROM the GIS TReC's LiDAR data server TO your desktop workstation (*note: in the example below, I have chosen to download BoxCanyon.zip to my desktop end-point and named the transfer "Box Canyon LiDAR"*).

² You will need to be signed into Globus Connect Personal and have this service properly configured. It is extremely important that you have a folder designated and allowing Globus WRITE permissions for this transaction.
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9. You may wish to view the transfer activity or go about other business until the transfer is complete. We have seen transfer rates of 624 Mbps (or about 62% full network utilization of the GIS TReC's LAN) so a **14GB file was transferred in 3 minutes.**
10. Once the transfer has completed you will receive an email notification from Globus.
11. Once completed successfully we recommend you log out of Globus Web App and Quit Globus Connect Personal.

END