KER User Guide

KER.be.unsw.edu.au

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KER lets you store, discover and share data

On KER, user can easily upload and store the spatial data (e.g. shapefiles) and non-spatial data (e.g. documents). The uploaded data can also be described using the metadata like Attribute table, Projection (coordinate reference system) details, Geometry, Spatial index to geometry, etc. The user can share the data with the other users and download it.

After uploading a spatial layer, the user can use it to create the online maps and share them. The layer uploaded is automatically served as WMS and WFS (map and feature services) and any other user can access in the desktop GIS (e.g. ArcMap or QGIS) and can also use in the web application.

The user can also make the data private if the data is sensitive for privacy, commercial or other reasons. The user can choose the other users who can view, download, edit and manage the data with the privacy settings.

With KER the user can find the right version of spatial data and know the license conditions, even if the person responsible is not available to assist. KER complements the research papers as a repository for publishing the data underpinning the research.

This document discloses how to use KER including the approach we have adopted to ensure reliable data management through quality data and metadata.

For any questions or suggestions contact resilience@asu.edu

KER is powered by GeoNode, an open source geospatial content management system.

Accessing data on KER

Anyone can be a user of KER. The public data can also be accessed and utilized without registering into the KER website. The user needs to visit the website dataexchange.asu.edu to explore the data, layers, documents, metadata, etc.

When to load data to KER

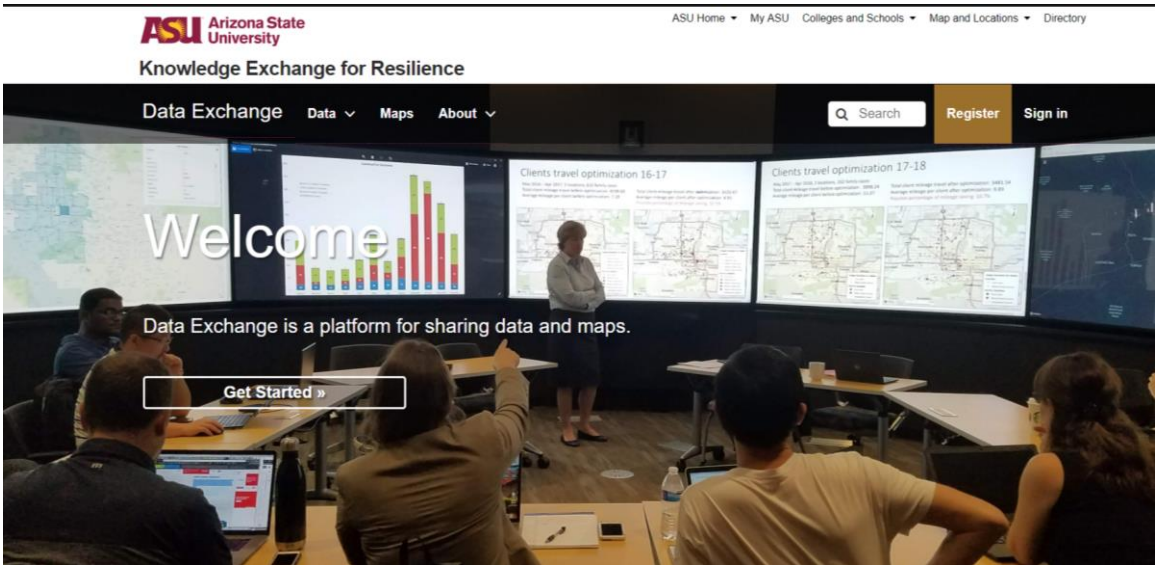
If you are working with spatial data, you can load the spatial data into KER website after:

- reaching a project milestone or put a project on pause: uploading and documenting your data so the user (or any other user) can know the progress of the project.
- The user needs to share the data with other users/team members or beyond
- completing a project and want to publish your results.

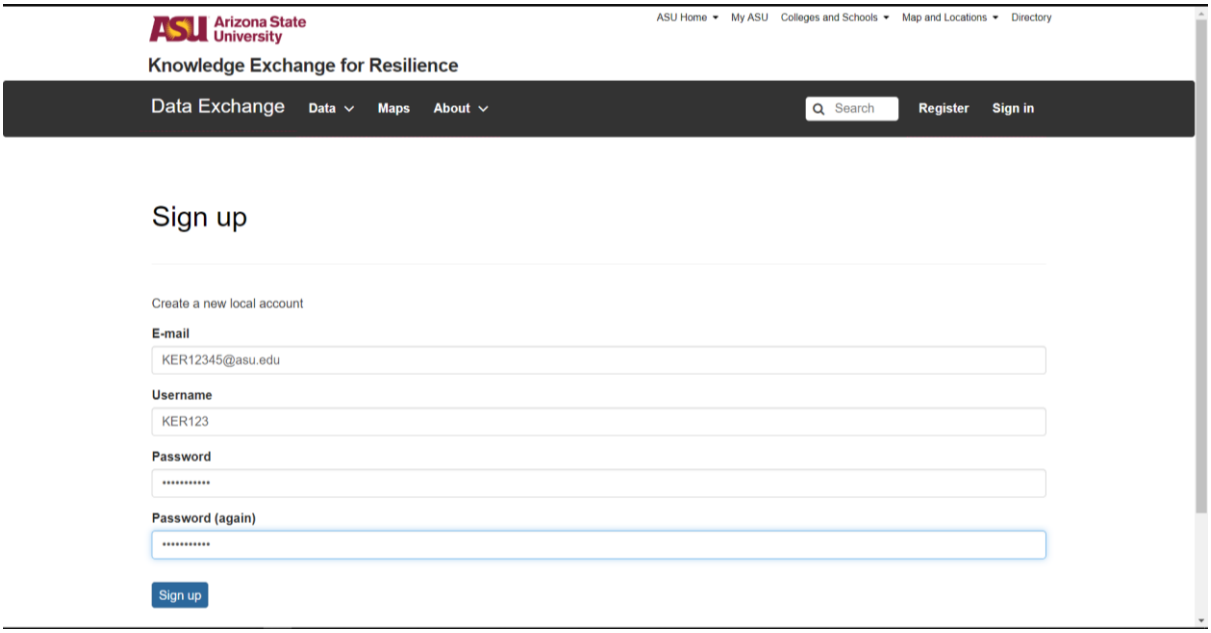
Creating an account

To upload data to Data Exchange or access restricted data, you will need an account. This is separately managed from your ASU account.

1. Go to the website link dataexchange.asu.edu.
2. You can either Sign in if you already have an account. If you do not have an account, then click Register to create an account.

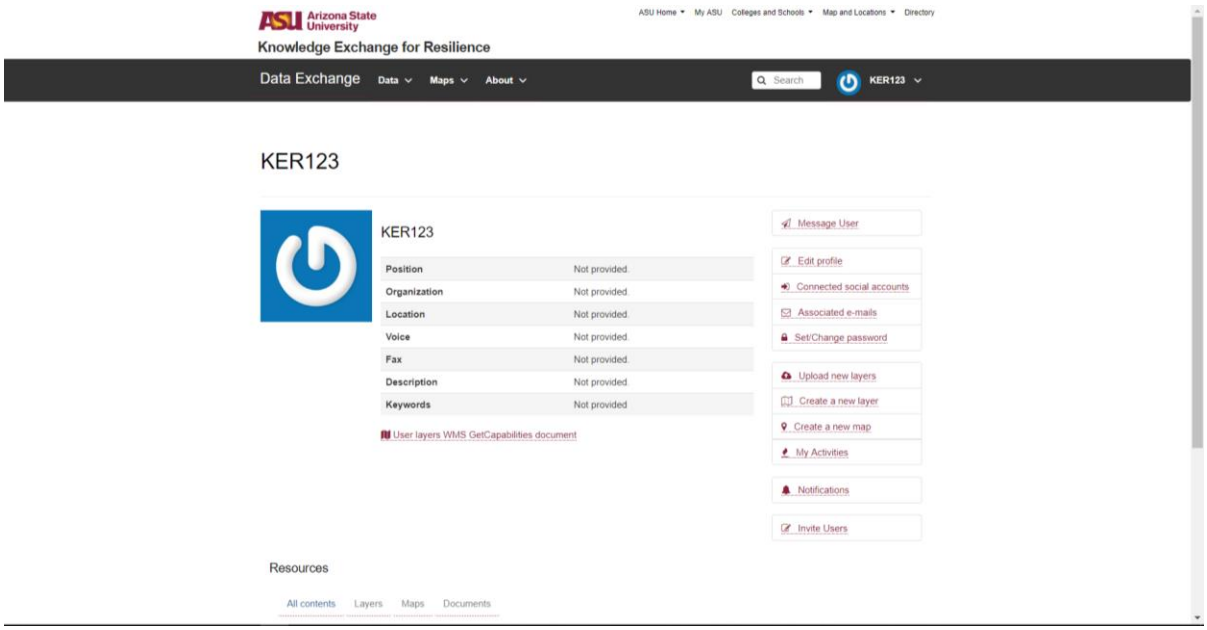


3. Enter your email, username and password and then click sign up.



4. Once your account is created you'll receive an email notification and an SMS with your temporary password.

If you do not receive the email within a few minutes, check your **Junk Email** folder. If it's there, right-click and select **Not Junk** before following the link in the email to login and change your password.



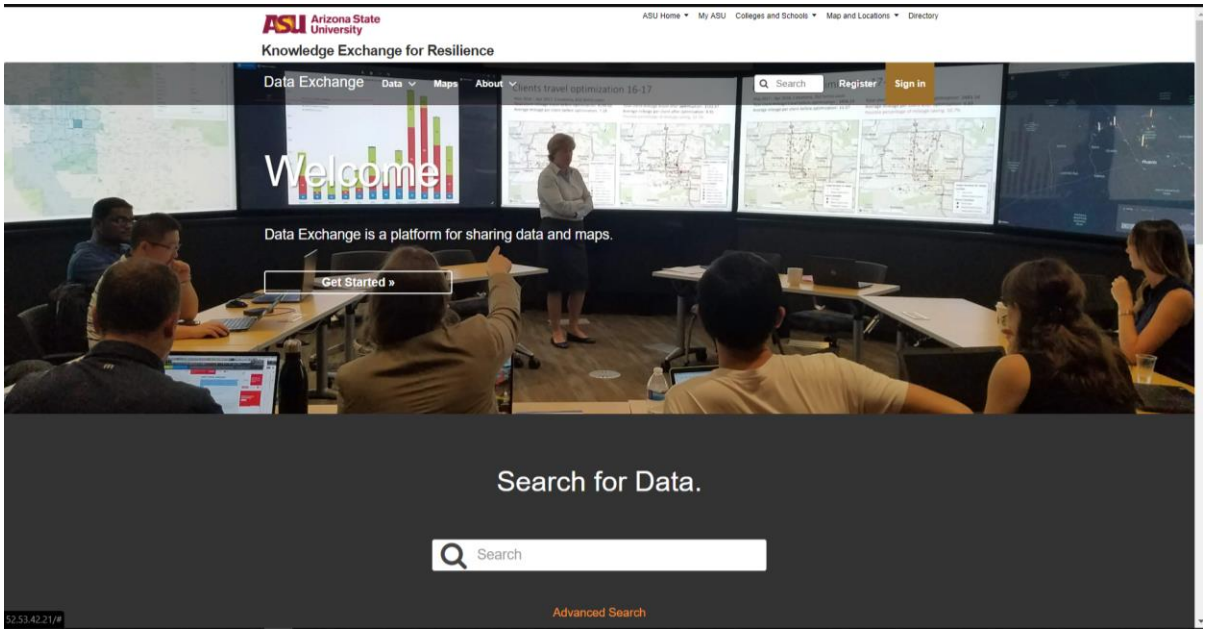
KER Librarian

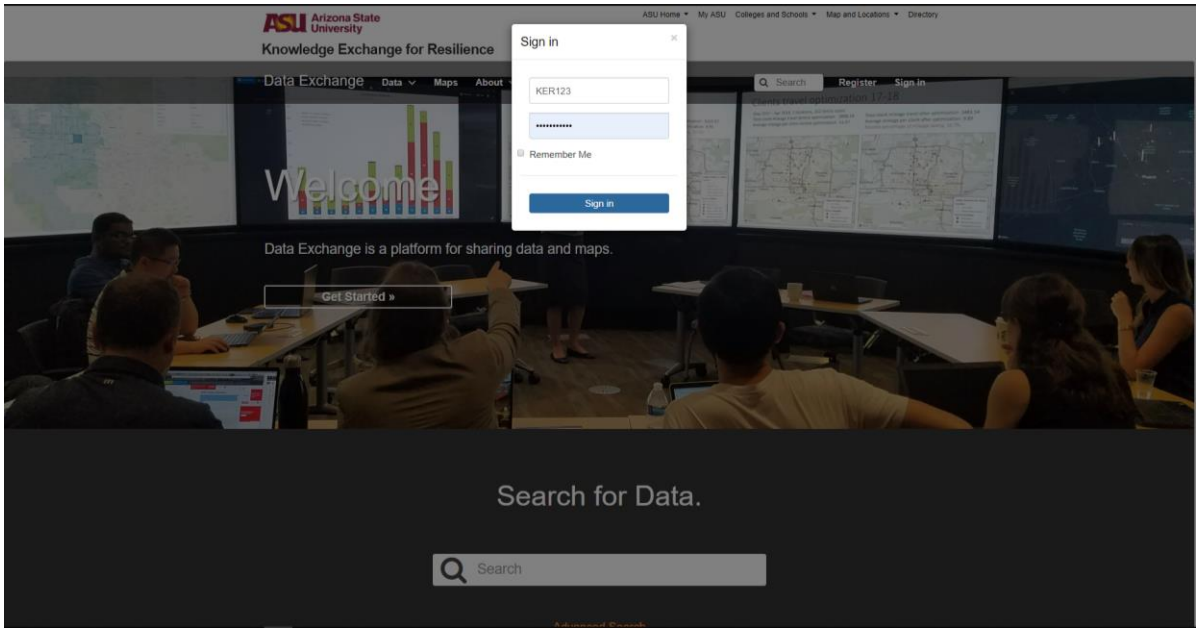
The KER Librarian (email resilience@asu.edu) is your first line of support, responding to any technical problems or issues with the site.

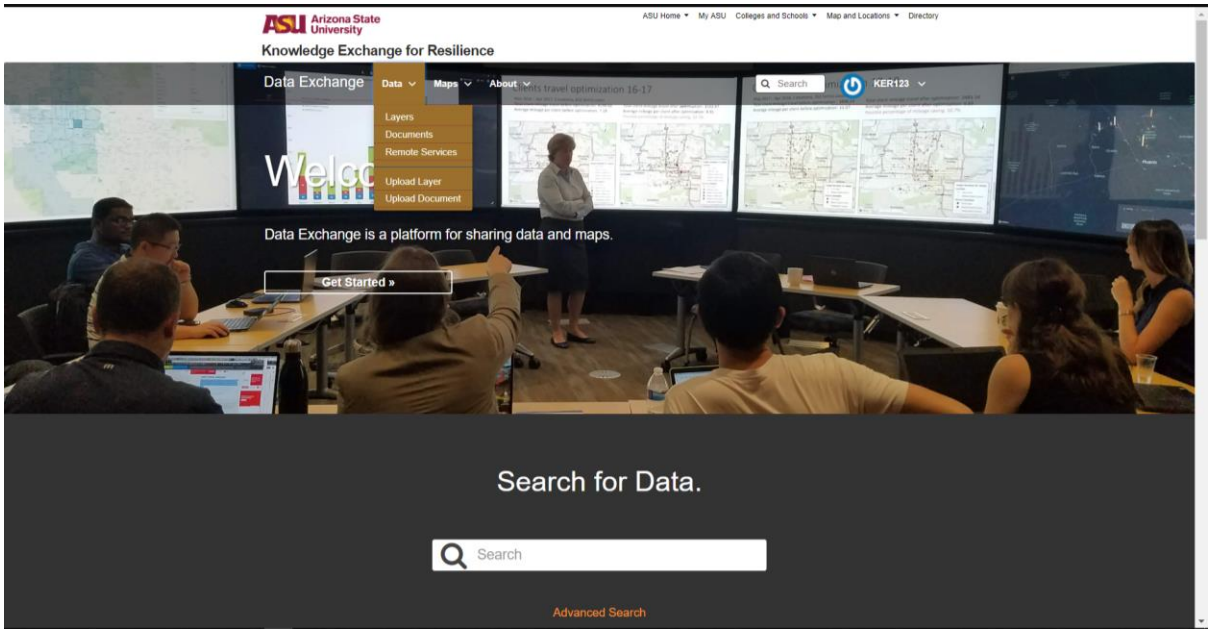
The KER Librarian also oversees the website content, reviews the public data for basic quality checks. The Librarian has the authority to remove any public access from resources if the data don't meet the guidelines for the public data. The Librarian will also contact the resource owner to help resolve the problem.

Loading data

The user can Sign in into the KER website to upload the spatial data in shapefile, GeoTIFF, CSV or KML formats. KML is not fully supported, but you can contact the KER Data Managerto know how to go with this.


Arizona State University
Knowledge Exchange for Resilience
ASU Home
My ASU
Colleges and Schools
Map and Locations
Directory
Data Exchange
Data
Maps
About
Search
Register
Sign in
Welcome
Data Exchange is a platform for sharing data and maps.
Get Started »
Search for Data.
Search
Advanced Search


Arizona State University
Knowledge Exchange for Resilience
Sign in
KER123
Remember Me
Sign in
Data Exchange
Welcome
Data Exchange is a platform for sharing data and maps.
Get Started »
Search for Data.
Search



You can also upload non-spatial data under the **Documents** tab. The supported formats include CSV, Word, PDF, PowerPoint, Excel, ZIP archives, images and text.

Documents may be linked to a layer or map by editing the document metadata (**Edit Document > Metadata: Edit**). Choose an option under **Link to** near the bottom of the metadata form.

(Enter the picture after uploading the layers)

Setting permissions

By default, data you upload is accessible only to you. You will need to change the permissions to allow others to access and use it.

Access control is quite granular: on each resource, you can grant different groups and users permission to view, download, change metadata, edit data, edit styles and manage (update, delete, change permissions, publish/unpublish).

However, permission to view a layer also allows a user to map and query it. There is no separate permission to view the metadata for a layer without also viewing its data (GeoNode issue #3039).

CityFutures staff should generally make their internal data viewable to the CF group (CityFutures). Other BE staff should share with BE or with their own group within BE.

See Publishing data for guidance on making your data available publicly.

Tip: set permissions on multiple layers

From the Layers page, click beside layers to add them to the Shopping Cart which appears at top left under **Explore Layers**.

Then click **Set Permissions** under the Shopping Cart to set permissions on the selected layers.

Uploading a shapefile

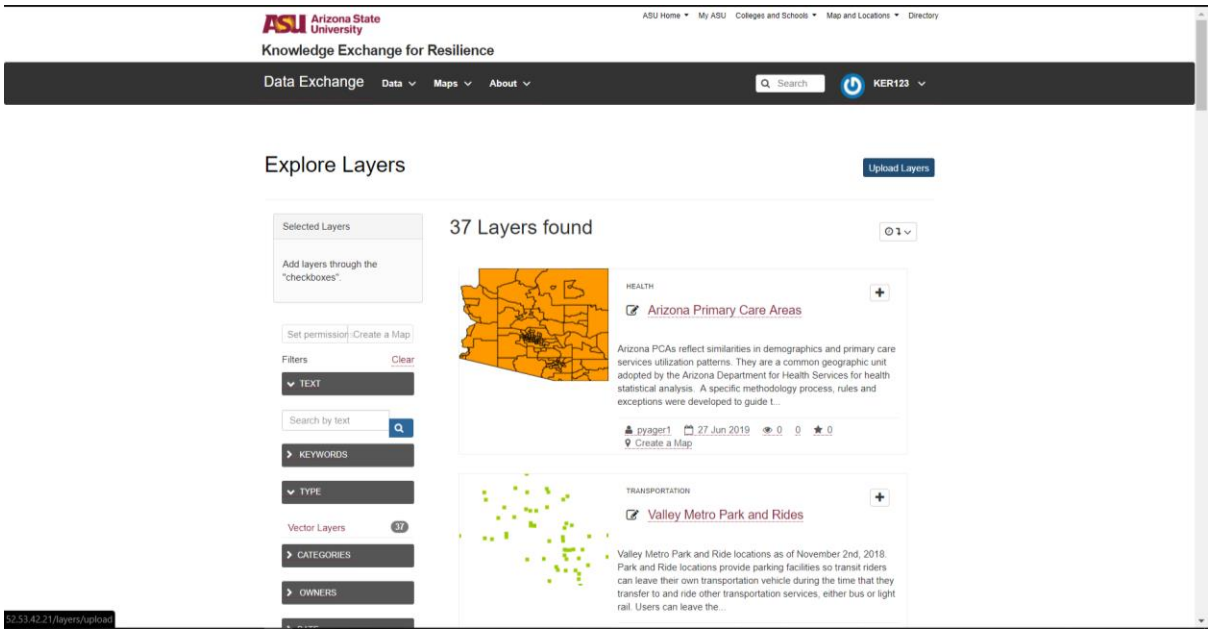
When uploading a shapefile, the user must upload at least four files: .dbf, .prj, .shp and .shx. If available, you should also upload the .xml file. Other files such as .sbn, .sbx, .cpg or .lyr are not used.

The explanation for the relevant file types is given below:-

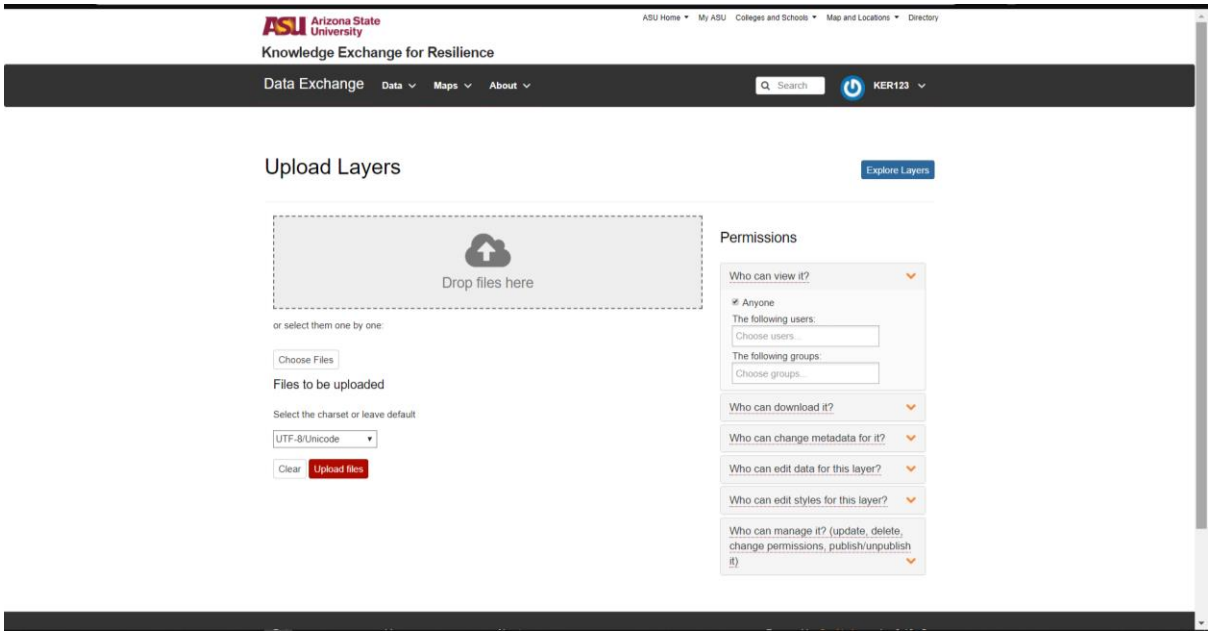
Filename	Format	Description
layer.dbf	Dbase	Attribute table
layer.prj	ASCII	Projection (coordinate reference system) details
layer.shp	Binary	Geometry
layer.shx	Binary	Spatial index to geometry
layer.xml	XML	Metadata

Steps to upload a shape file

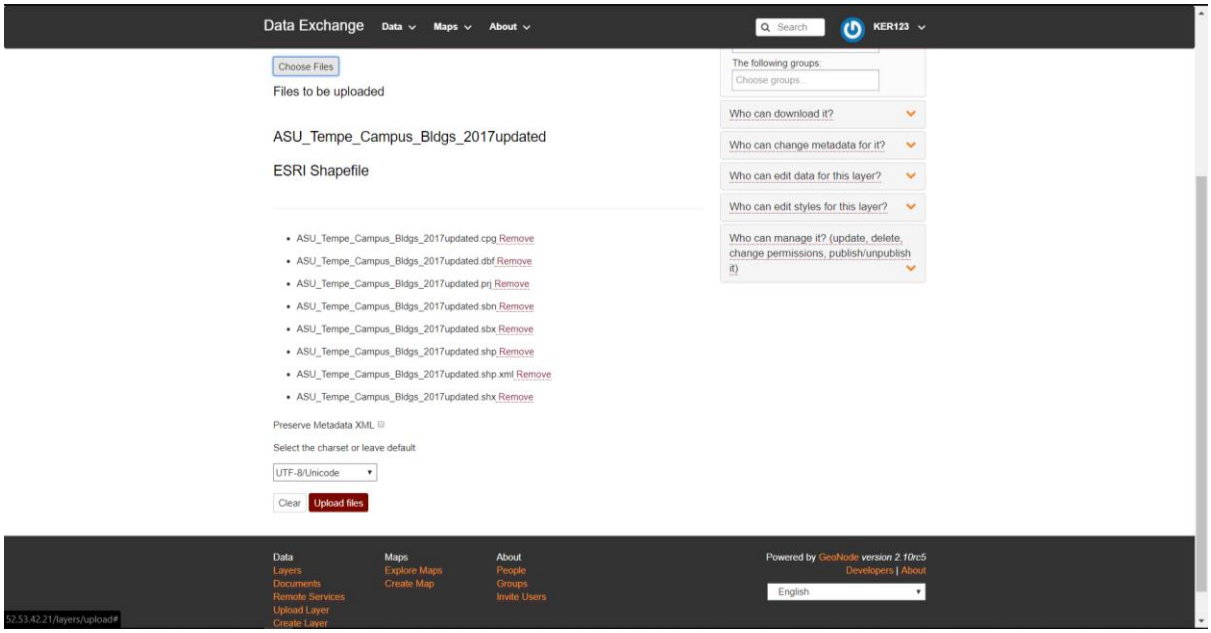
1. Go to **Data>Layers** on the home page of KER website. Click **Upload Layer** tab shown below.



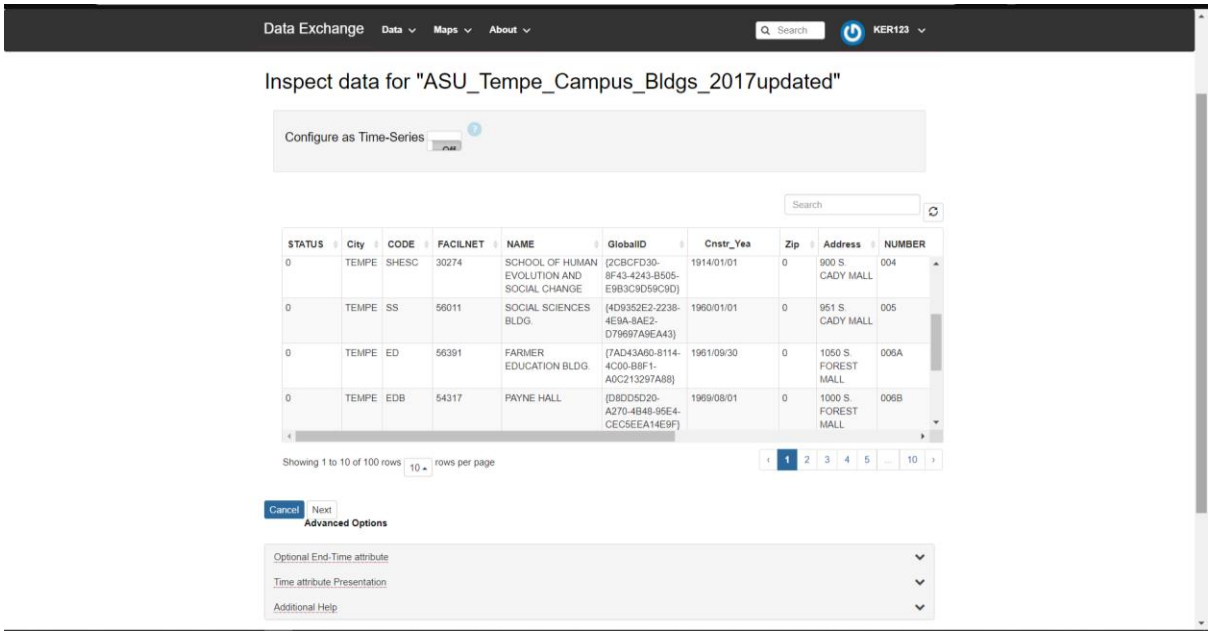
2. You can either drag and drop the files into **Drop files here** box or click **Choose files** to select the files from your Windows explorer (or Mac).



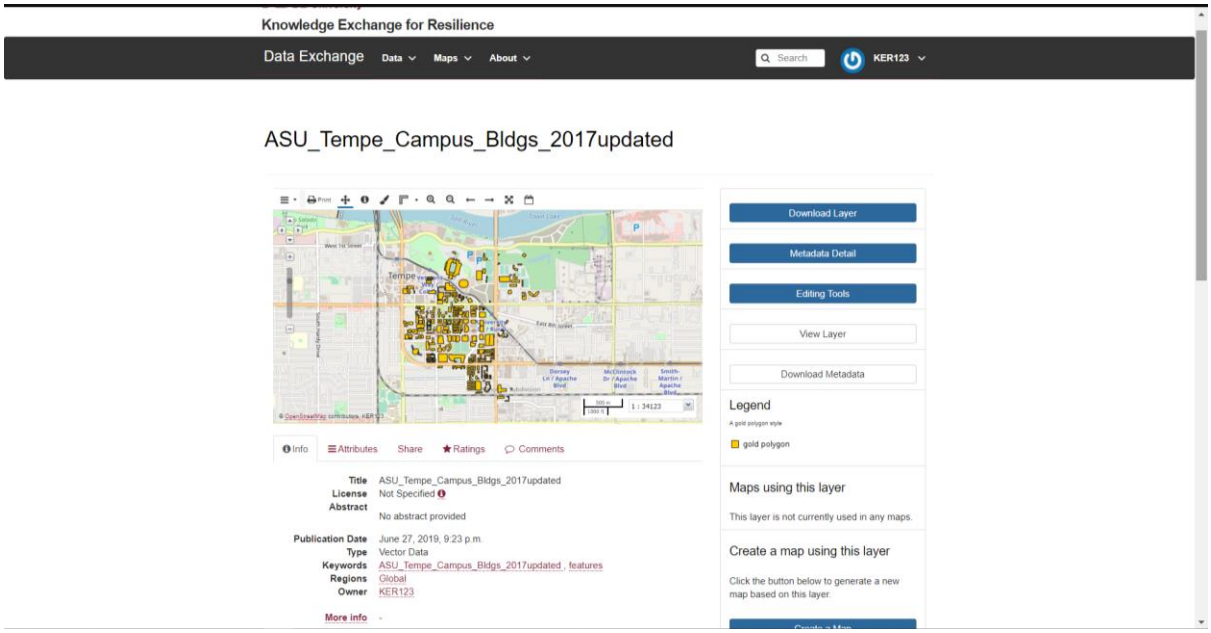
3. Select the files you want to upload. Remember, you must upload at least these four files: .dbf, .prj, .shp and .shx. Click **Upload files** to upload.



4. Inspect the data table and click **Next**.



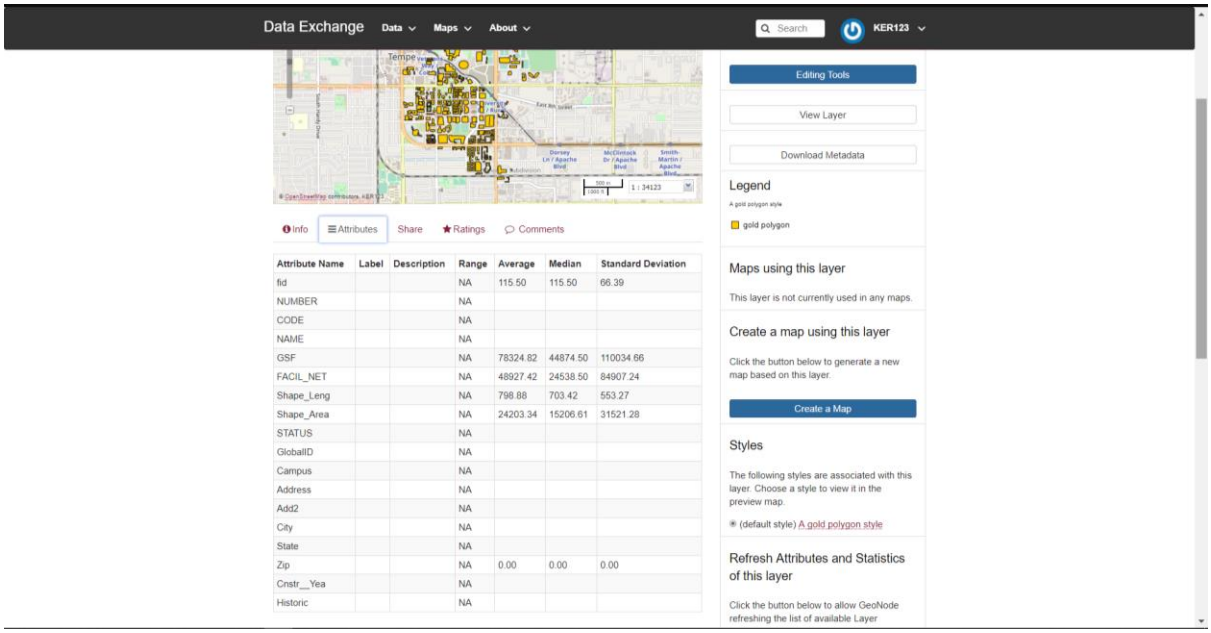
5. Your layers have been successfully uploaded. Now you can download the layers, edit the metadata, male comments for the other users in the data.



Attribute names

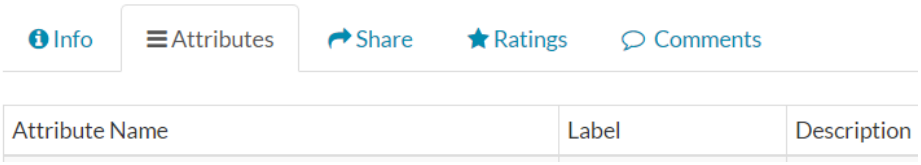
Attribute (column) names in shapefiles must start with a letter and are limited to 10 characters (letter, digits and underscore) only.

For CSV files, the system adds an attribute named ‘location’, so your CSV file cannot contain this attribute.



Warning: **invalid column names will cause the uploader to give an error message like 'BAD REQUEST' or hang with the message Processing data, please wait… If this occurs, you must fix the problem and rename your dataset (see Replacing a layer) before uploading again.**

After upload, you can use **Edit Layer > Metadata > Edit** (and scroll to the bottom of the metadata form) to label and describe any attributes that are not self-explanatory:



Good metadata

Metadata should describe a dataset, so others can find it and use it with confidence. Not all available fields need to be completed; recommended fields are shown below. Mandatory fields are shown with an asterisk*.

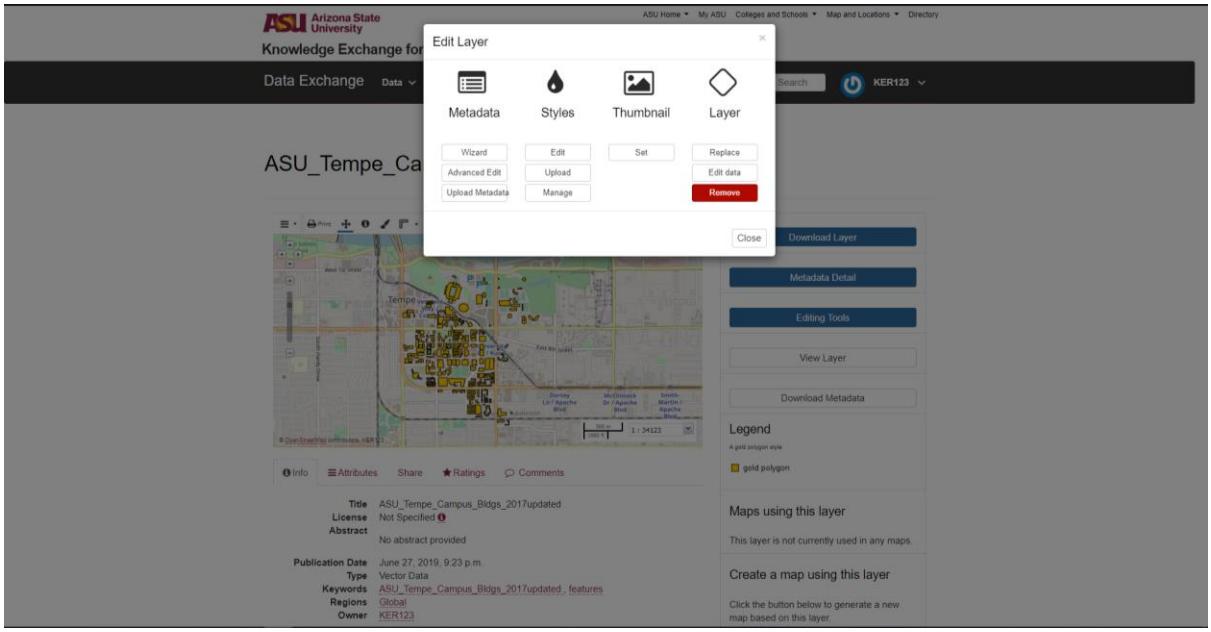
Field	Description
Title*	What, how (if needed), where and when (if not current), in that order. English words or spelt-out acronyms only
Date & Date type*	Enter a creation, publication or revision date
Abstract*	A brief narrative summary of the contents of the resource. **Important:** As authorship is not recorded elsewhere in the metadata, include the preferred citation format in the Abstract. E.g.:Doig, Jonathan P. (2016): Airbnb nightly price per SA2, Sydney. City Futures Research Centre. https://KER.be.unsw.edu.au/layers/geonode%3Aairbnb_price_per_sa2_sydney
Purpose	Summarise the intentions with which the resource was developed

Field	Description
Licence*	Data created by ASU-Knowledge Exchange for Resilience researchers should be licensed as Creative Commons Attribution-NonCommercial 4.0 International. When republishing data from another source, apply the licence used by the original author. If not listed, ask the KER Database Manager to add it.
Restrictions	Detail any restrictions not covered by a formal licence
Spatial representation type	E.g. Vector data
Temporal extent start & end	Enter the start and end of the time period covered for the data (if known)
Data quality statement	Describe the dataset's lineage (source and methodology). Include a link to the source if applicable.
Keywords*	Layers and other resources should be tagged with keywords to help others find them, just as you would add keywords when publishing a research paper. Type a character to see what keywords are available. You can also add your own. Keywords may be codes, acronyms, words or short phrases. Avoid using punctuation as this makes the keyword harder to remember. Use a keyword for each project. This should match the name of the group for that project. Additional keywords can be locally created or chosen from controlled vocabularies.
Category*	Common choices in built environment would include: • Boundaries (e.g. LGAs) • Economy (e.g. employment) • Planning Cadastre • Society (e.g. demography) • Structure (e.g. buildings) • Transportation (e.g. cycling)
Attributes	Label and describe any attributes that are not self-explanatory

Setting a thumbnail image

When the user uploads the data, a thumbnail image showing a map of the layer (without any basemap) is created and displayed in the layers list. The user can enhance this thumbnail by including a basemap and conceivably choosing a different scale or the area to be displayed.

Adjust the map on your layer page, then click **Editing Tools> Thumbnail: Set**



Notes:

- Your browser caches images, so the thumbnail may not appear to change. Refresh the page with a 'hard reload' (Ctrl + Shift + R on Chrome, see instructions for other browsers).
- Please be patient, as larger datasets may take several minutes to display the first time. The system builds a tiled image cache for new layers, so subsequent rendering is virtually instantaneous.

Adding related documents

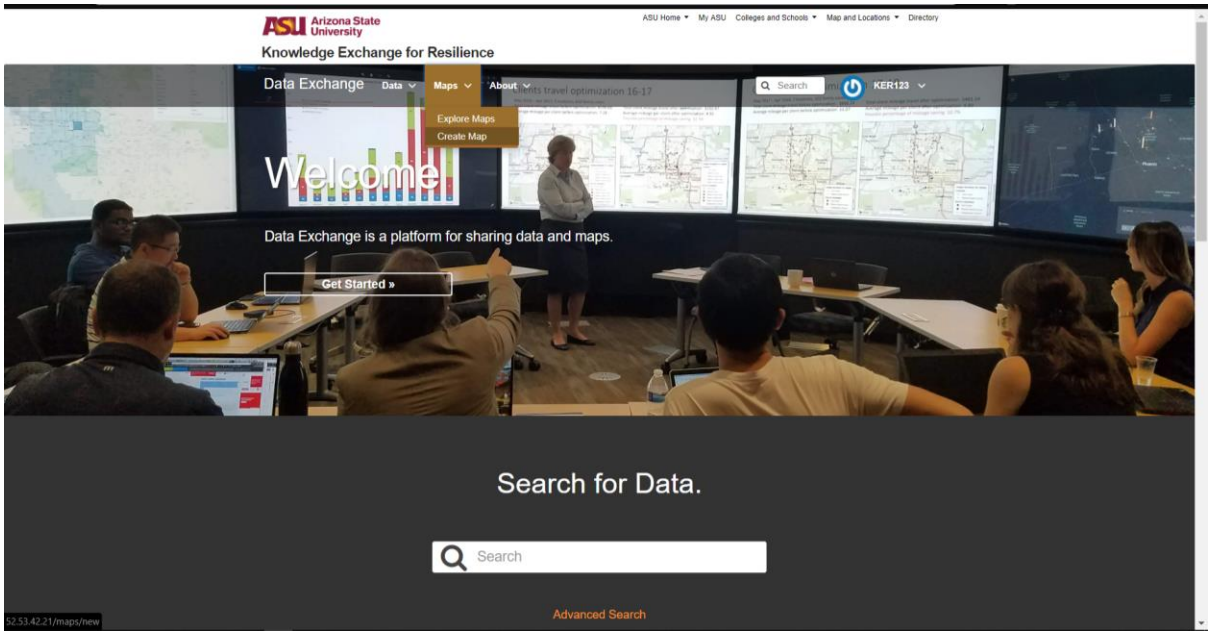
Along with spatial layers, non-spatial data and other documents can also be uploaded to KER through the Documents tab. A document can be linked to a layer or map. The user can go to **Edit Document** > **Metadata: Edit** and select the related layer/map name in the drop-down under **Link to**.

Making a map

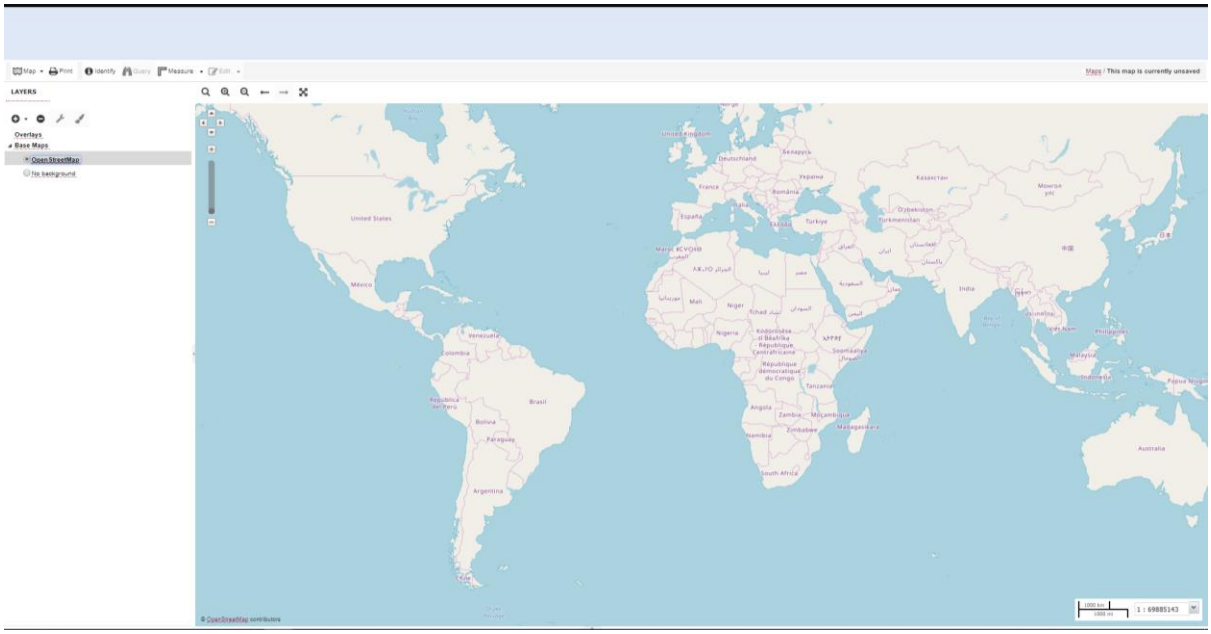
Once the user has uploaded the data, it can be displayed in an interactive map. The map can be published on KER website, can be shared by a link and even embed it in users own web page. The steps are given below:

1. Sign in to Data exchange.

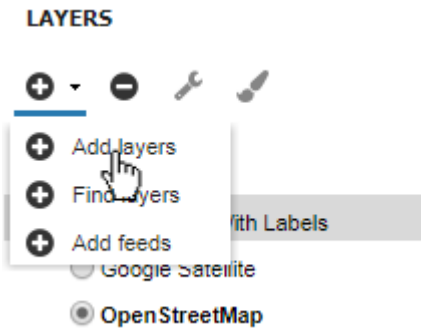
2. Create a new map from the Data exchange home page.



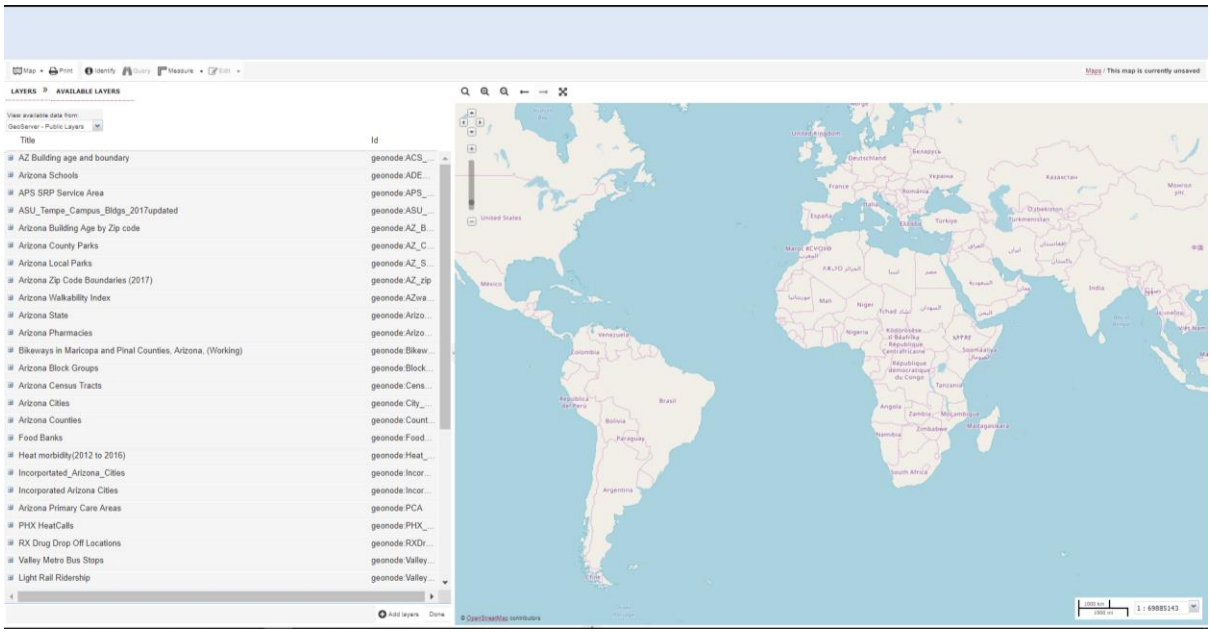
This will open the map viewer.



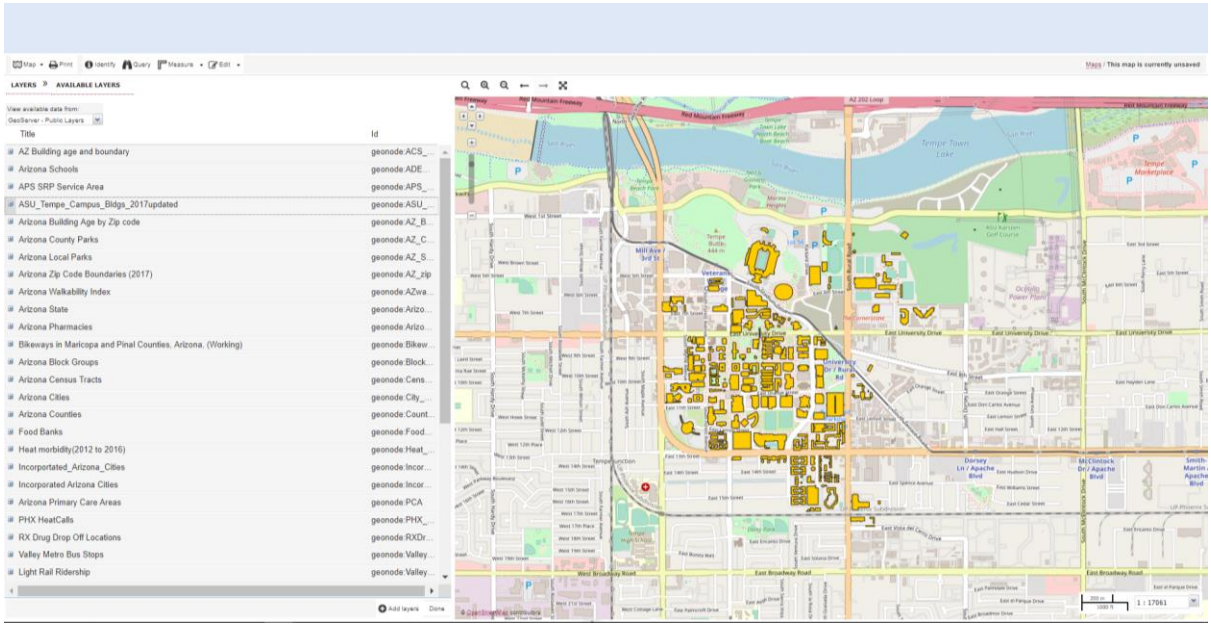
3. In the Layers panel on the left, click the ⊕ to expand the menu, then select **Add layers:**



4. Select the layers you want to add to the map. Use the **Shift** or **Ctrl** key to select multiple layers.

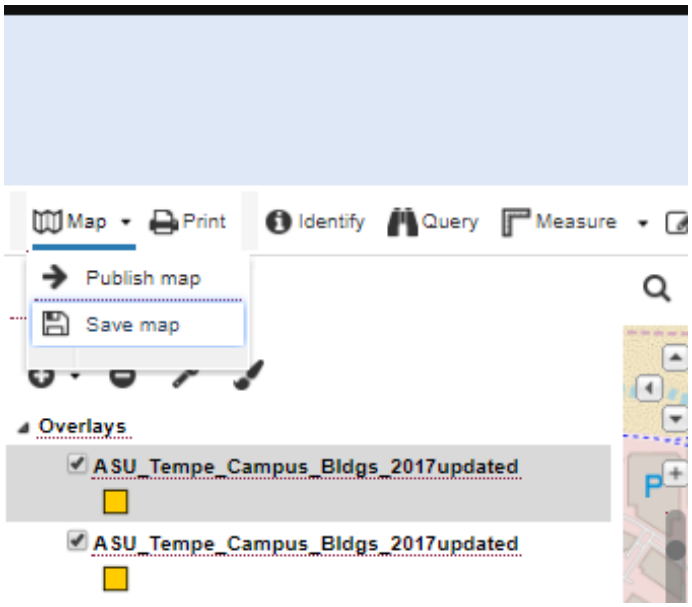


5. Click Add layers at the bottom of the screen. Your layers should now display on the map.



6. Click **Done** to close the panel and return to the map legend.

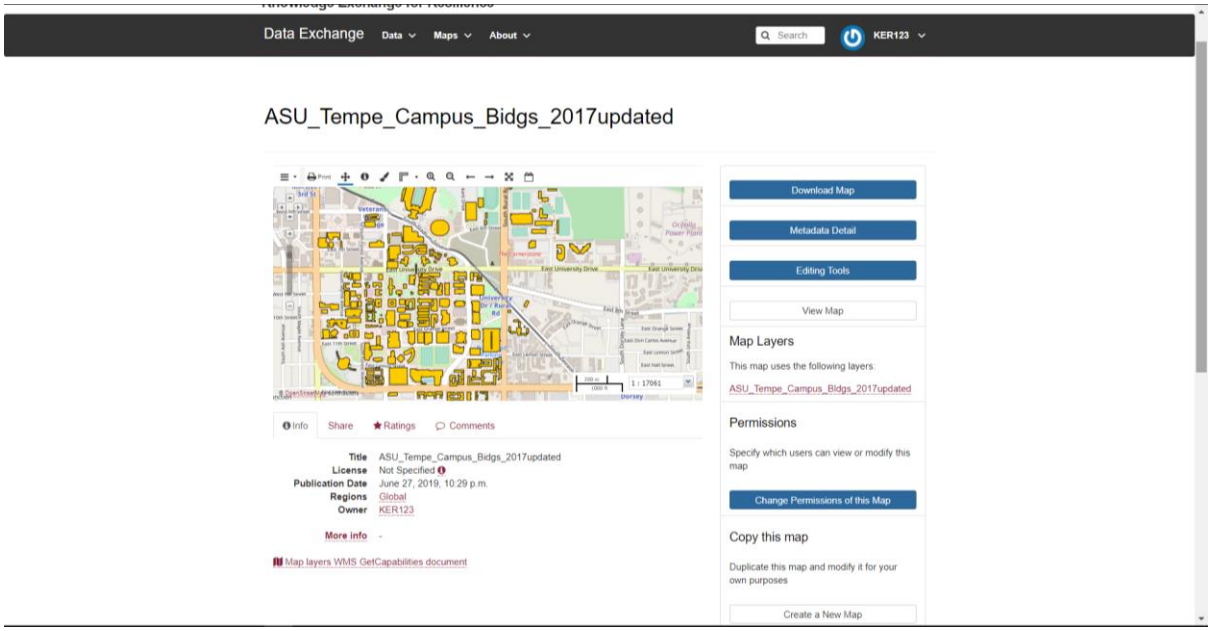
7. To save your map, click **Map > Save map** at top left:



8. Enter a title and short description (abstract) for the map, then click **Save**. Your map is now listed on the Maps page.
9. Click on it to view an individual overview page for your map.
10. Then click **View map** to view it.

To share your map with others:

11. From the map overview page click **Change Permission of this Map** tab.



12. Under *Who can view it?* add users or groups by typing their names in the relevant boxes.
13. If you want the map to be public, click the checkbox beside **Anyone**.
14. Repeat the above two steps for *Who can download it?* and click **Apply Changes**.

Make sure each layer in the map can be viewed by the same people. See Publishing data below.

Before making your map public, provide more details to describe it.

15. From the map overview page, click **Edit Map > Metadata Edit**.
    See Good metadata above for the details needed for publication.

If you have a blog or website, you can embed your interactive map in your page.

16. From the map view page, click **Map > Publish** and copy the HTML code shown into your web page code.

To share a link to your map:

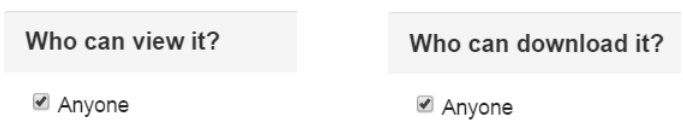
17. From the map overview page click **View map**.
18. Copy the URL from the web browser address bar and paste it in your email etc.

You can also rename map layers, change their symbology and other settings. See this Geonode tutorial for guidance. If you need more help, ask the KER Database Manager

Publishing data

Before publishing data, please make sure it meets our quality guidelines for Good metadata, and you have made it look nice by Setting a thumbnail image.

To publish your data, tick the boxes to allow 'Anyone' to both view and download the data:



Notify the KER Database Manager so they can harvest your metadata record to resilicene@asu.edu.

Consider if your layer needs caching to speed up display. If so, ask the Librarian to resilicene@asu.edu

If you want your data to be citable, resilicene@asu.edu the Data Librarian for a Digital Object Identifier (DOI).

Replacing a layer

Warning: A bug in our version of GeoNode prevents replacing a layer (with **Edit Layer > Layer: Replace**) or even re-uploading a shapefile that has been previously uploaded and then deleted.

This will be fixed in the next version of GeoNode. In the meantime, please rename your shapefile on your computer before uploading again. You can do this in ArcMap or ArcCatalog, or using the DOS Command Window.

To rename a group of files from Windows Explorer:

Navigate to folder

Shift-Right-Click > Open command window here

Type: rename <oldname>.* <newname>.*

Press Enter key

More help

For more help on the GeoNode features provided by KER, see:

- GeoNode Help
- GeoNode User Features

If you are experiencing problems, first check Troubleshooting above. If this does not provide a solution, contact the resilicene@asu.edu.