

UA Libraries Data Cooperative Unit's

GIS TUTORIALS

STARTING A PROJECT

NONE

SOFTWARE USED

1

TUTORIAL NUMBER



DIFFICULTY LEVEL



LEVEL OF STOKE

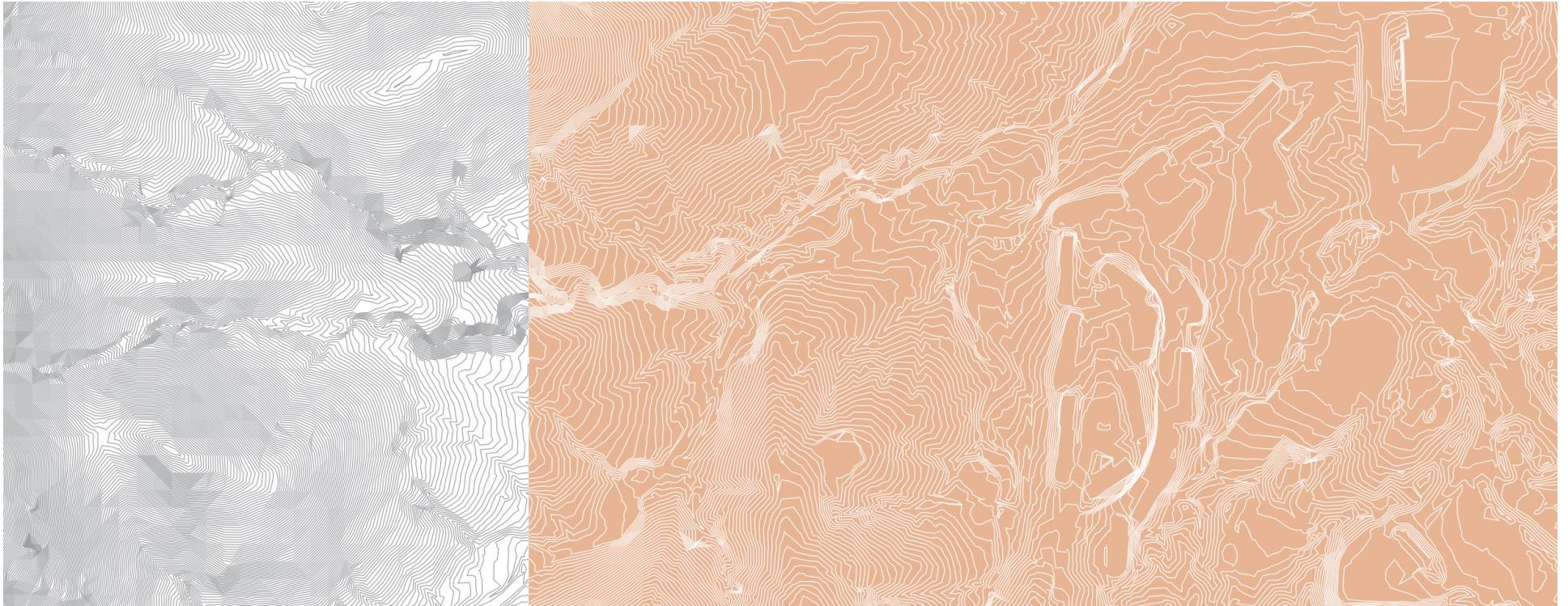


HARDWARE NEEDED:

desktop or laptop computer
internet connection

SOFTWARE NEEDED:

none



INTRODUCTION

1

The purpose of this tutorial is to teach you how to start a project in ArcGIS Online. You will also learn how to upload shapefiles into the project.

Upon completion of this tutorial, you should be comfortable:

1. Logging into ArcGIS Online.
2. Uploading data to your ArcGIS Online account.
3. Creating a basic online map containing multiple hosted feature layers (shapefiles).

LOGGING INTO ARCGIS ONLINE

Please complete the following steps to log into your ArcGIS Online account.

1. Open a web browser and navigate to the ArcGIS Online website:

[ArcGIS Online](#)

Click on the Sign In button.

In the Sign in window expand the Your ArcGIS organization's URL pane and type in **uagis**.

The URL should read:
uagis.maps.arcgis.com

Click on Remember this URL to save uagis for future ArcGIS Online log-ins.

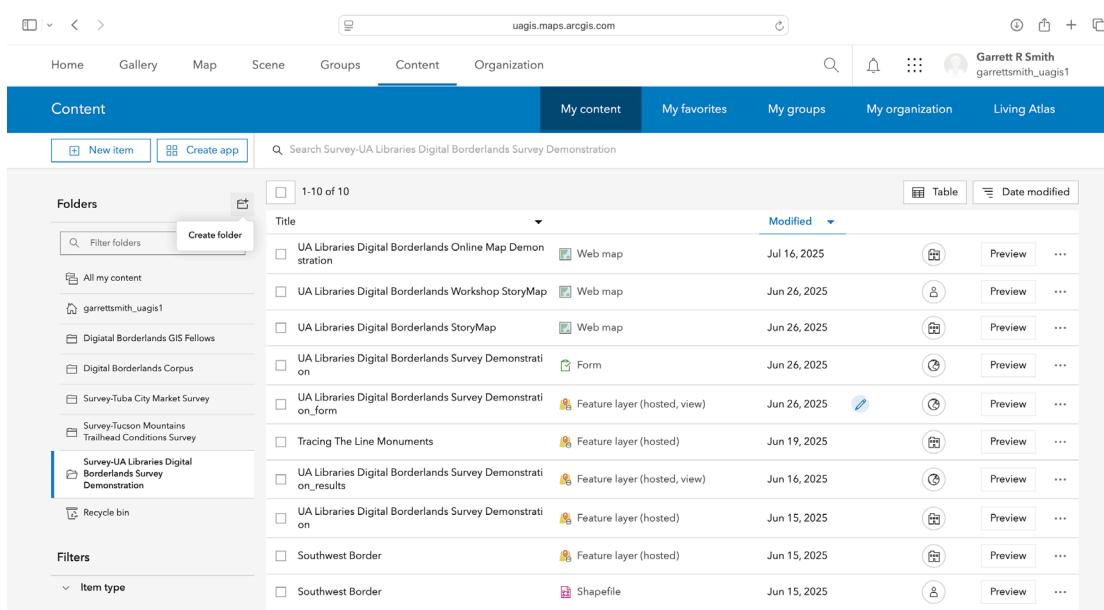
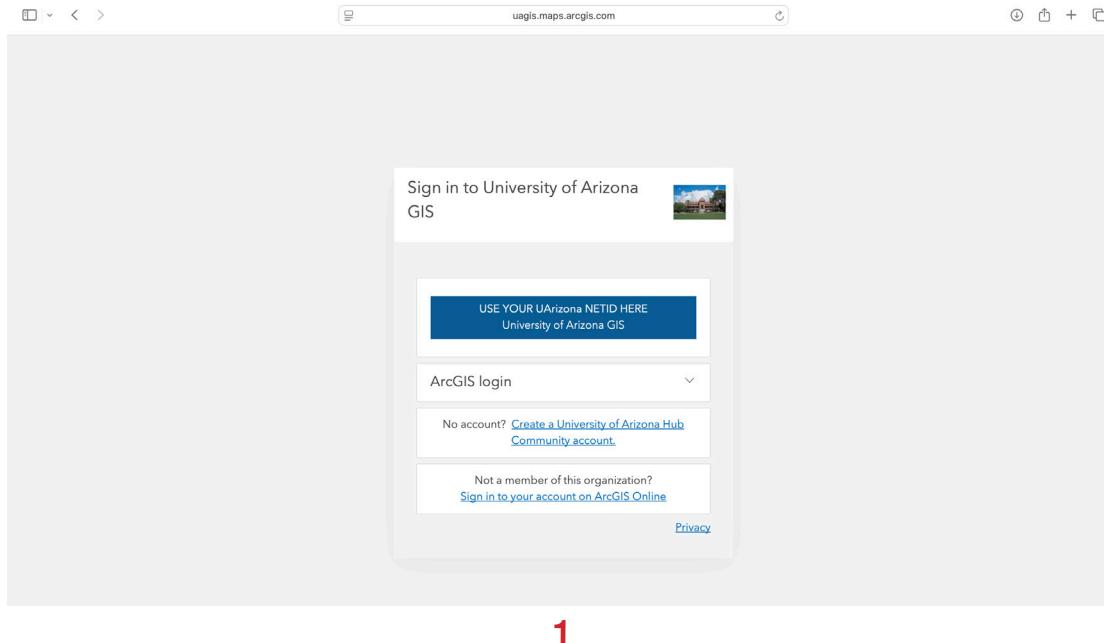
Click Continue.

In the Sign in to University of Arizona GIS window click on USE YOUR UArizona NETID HERE.

You will be redirected to a Shibboleth Page to enter your NETID and Password.

Once signed-in click on the Content tab.

2. In the My content pane click on Create folder.



DOWN- AND UPLOADING DATA

Download the data that will be used in this tutorial from the following link:

[GIS OnlineIntroData.zip](#)

Please note: All of the data used in this tutorial is available on the UA Library's GeoBlacklight Data Portal: <https://geodata.lib.arizona.edu/>

1. Unzip the GIS_OnlineIntroData folder and place it the project's folder that you created in the previous step.

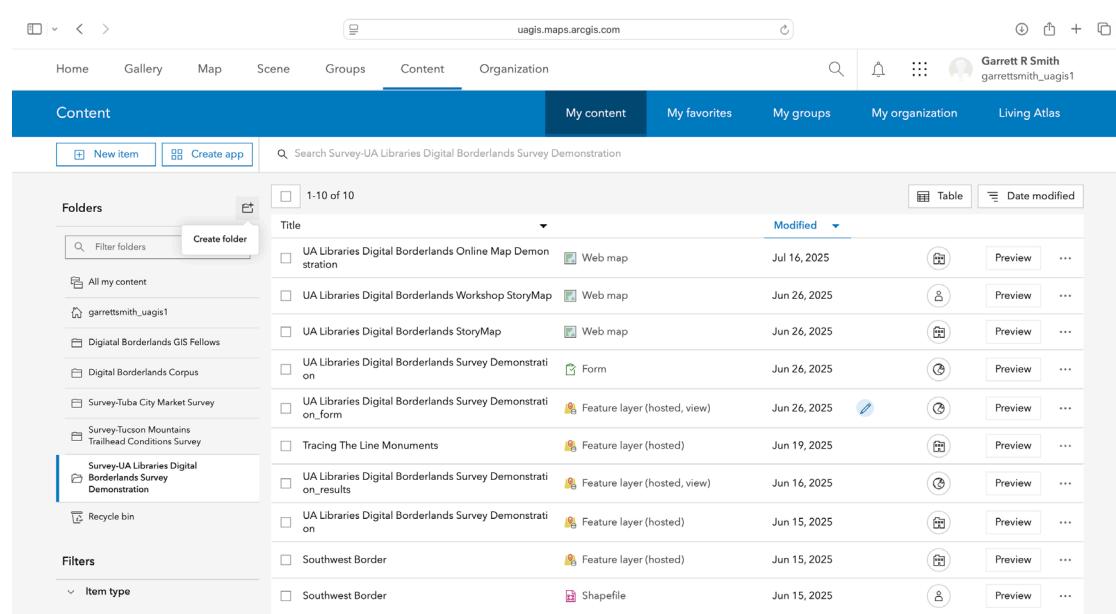
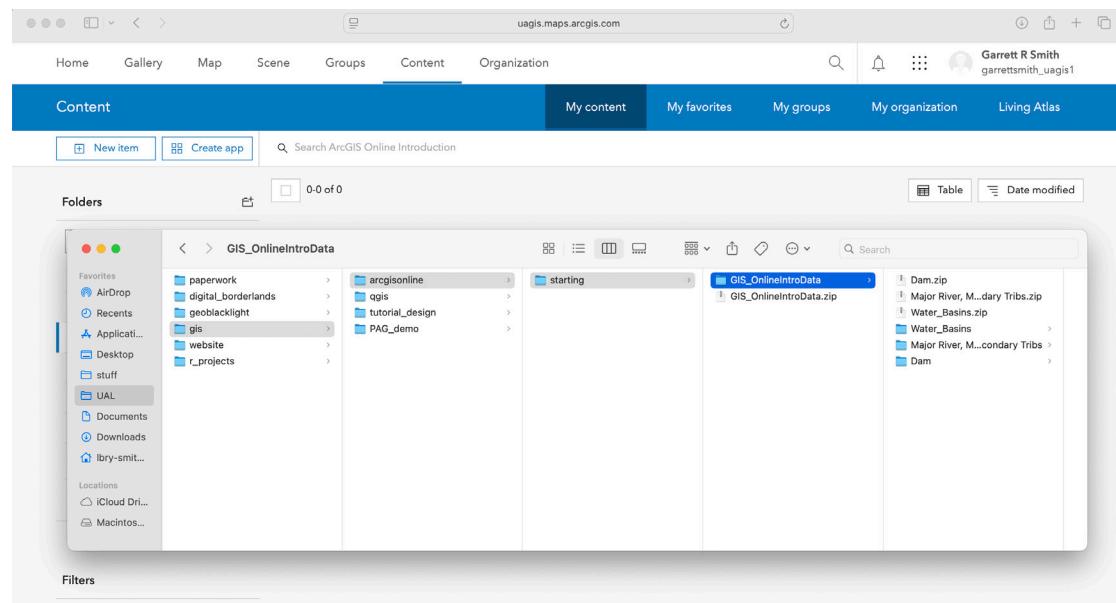
Do not unzip the individual folders found within the main folder, data needs to be compressed in a folder in order to upload it to ArcGIS Online.

2. In the Folders pane click on Create folder.

Enter a name for the new folder you would like to create.

HELPFUL HINT:

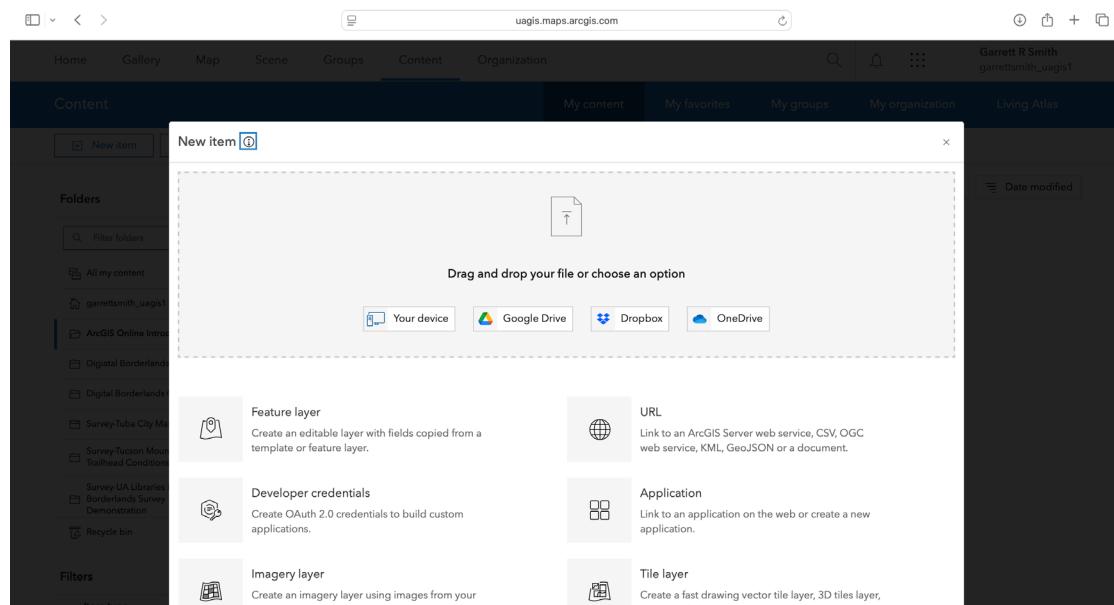
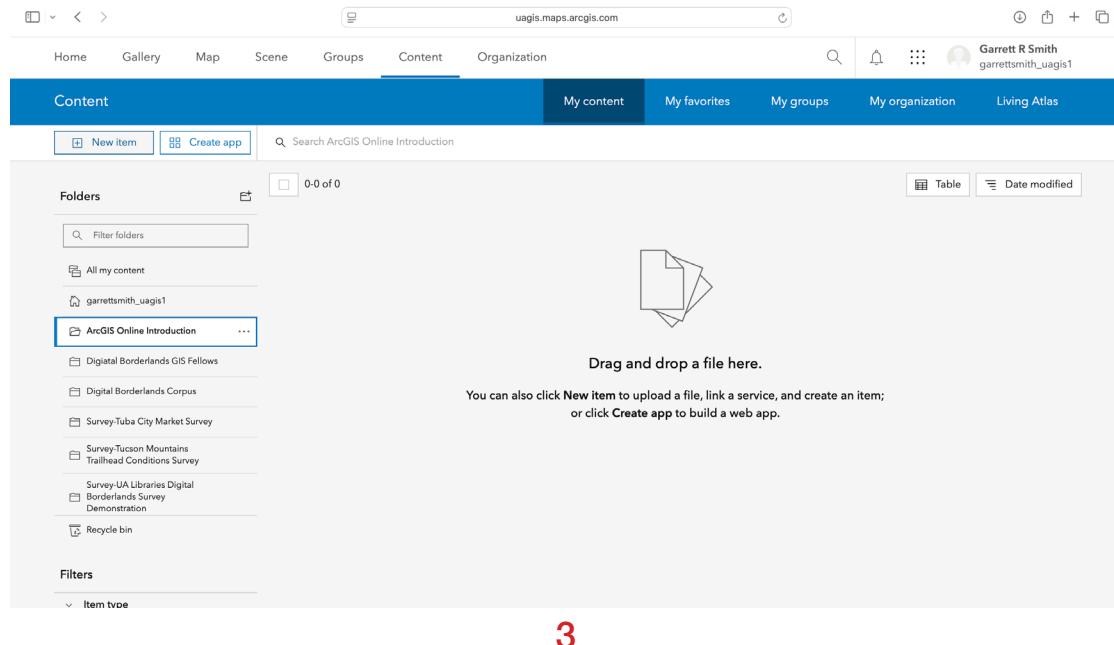
It is a good practice when working on GIS projects to develop a system of data management practices that includes folder structure and file naming conventions.



- 3.** Click on the folder you created previously in the Folders pane to open its contents (it should be empty).

Click on the New Item button.

- 4.** In the New item window click on Your device.



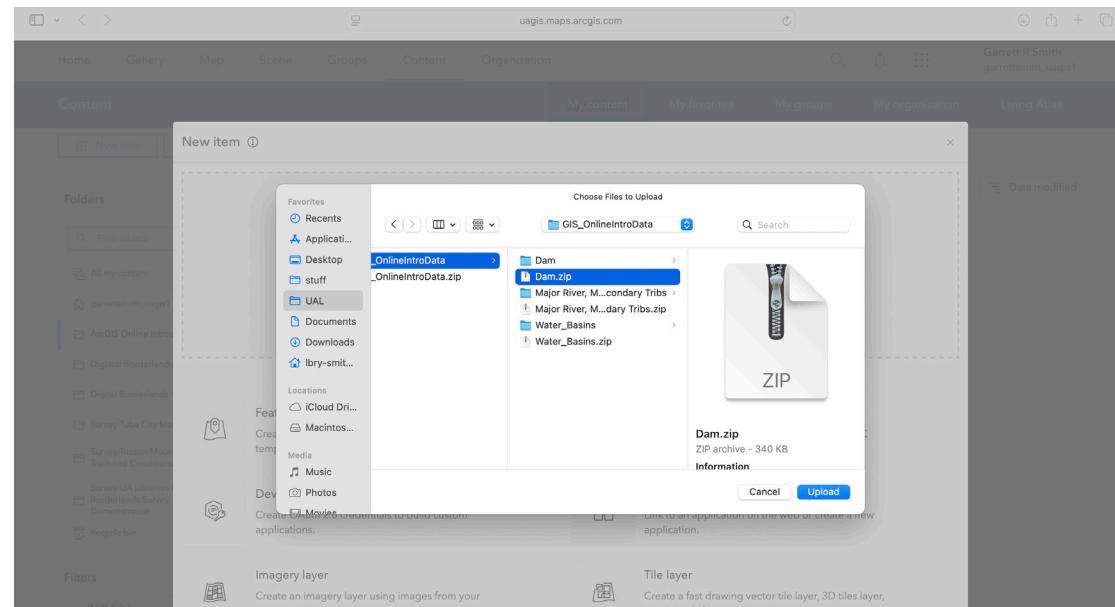
5. In the Choose Files to Upload window navigate to the GIS_OnlineIntroData folder you saved to your computer and select the Dam.zip file.

Click Upload.

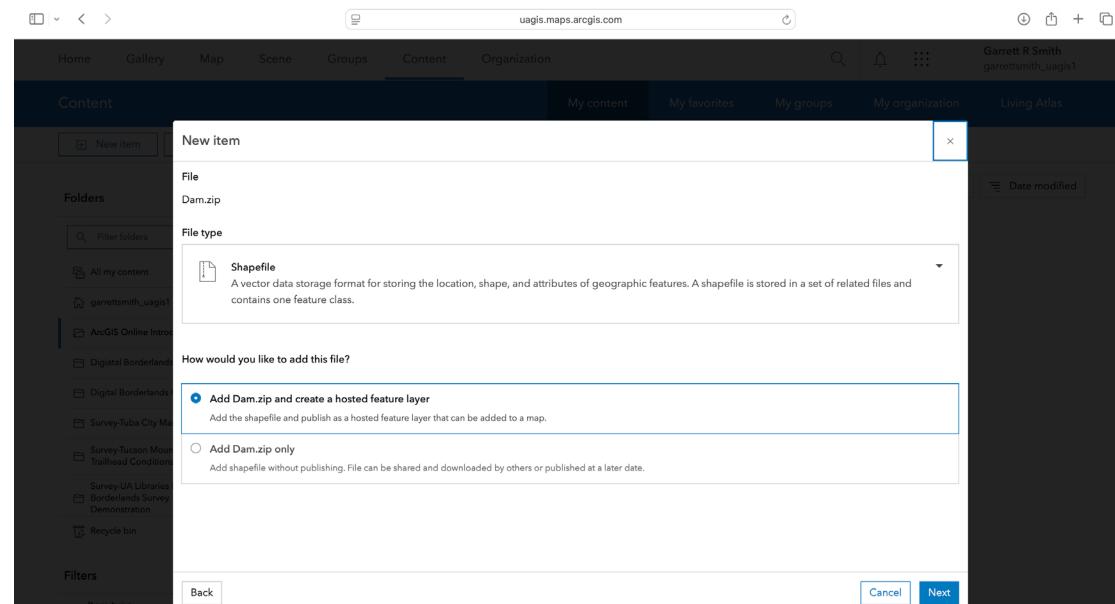
6. In the New item window make sure the File type is Shapefile and that you would like to add this file as a hosted feature layer.

HOSTED FEATURE LAYER:

Feature layers can be thought of as online vector data files and are used online for display, query, and editing in the ArcGIS Online environment. Hosted feature layers allow you to share data with an online audience since they are drawn by the browser and can support interactive elements such as highlighting, querying, and the display of popups based on the attribute table or other features.



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7. In the New item window give your Hosted Feature Layer a Title and short summary.

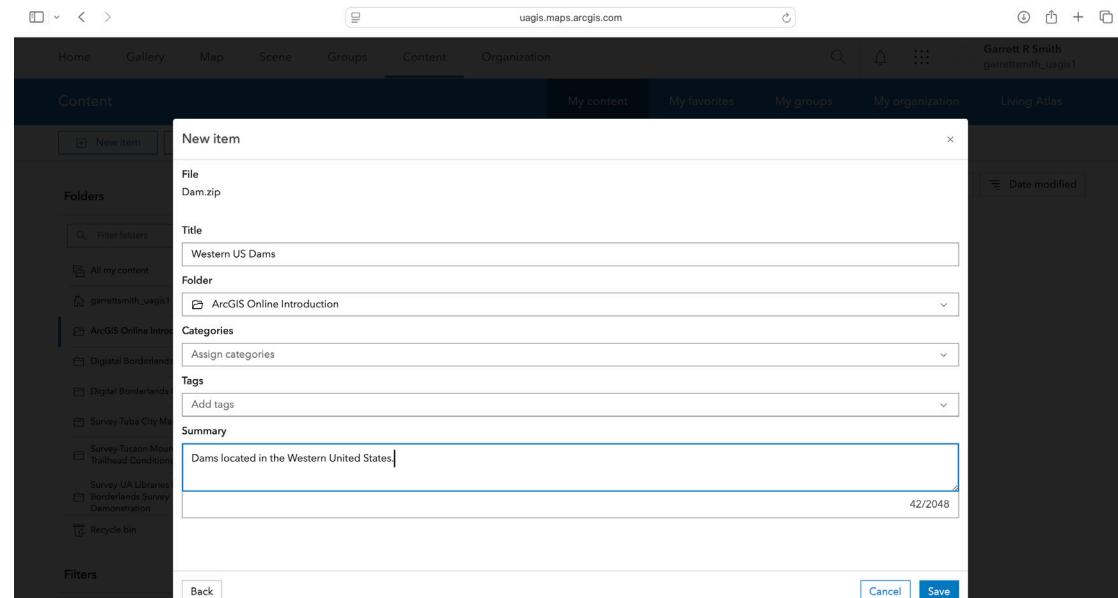
Click Save

8. The zipped shapefile (.shp) that you uploaded to ArcGIS Online will now be a Hosted Feature Layer in your ArcGIS Online account.

You can scroll down on the Overview tab to see other pertinent information related to the Hosted Feature Layer.

METADATA:

Notice that when you upload the Dams shapefile to ArcGIS Online the Summary and Description fields are automatically filled in. ArcGIS Online can use metadata (the data about the data) fields found in shapefiles to automatically populate these fields. The more description that you provide for each of your Hosted Feature Layers the easier it is for yourself or other (if you plan to share the layer publicly) people to find the layer based on search terms.



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SIMPLE DATA EXPLORATION

1. In the tab options for your Hosted Feature Layer click on the Data tab to display the attribute table.
2. In the tab options for your Hosted Feature Layer click on the Visualization tab to display the Hosted Feature Layer on a map.

DATA TABLES:

Data tables consist of the following characteristics:

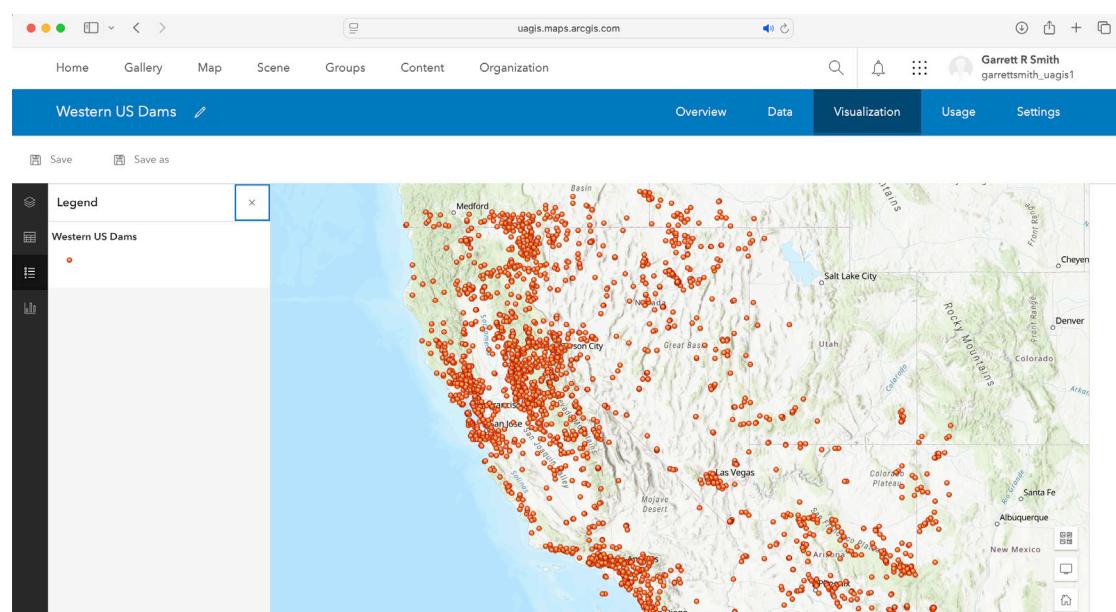
- Tables that contains rows
- All rows in the table have the same fields
- Each column has a data type (integer, decimal, number, character, date)

HELPFUL HINT:

Whenever loading new data into a GIS project it is good practice to (1) place the data on the Map to ensure that it is contained within your study area and to (2) open the data table after loading the data into the Contents pane to make sure that there are attributes listed that will ensure that you are able to complete your GIS analysis.

Layer: Western_US_Dams Filter Total: 2471 Data updated: July 25, 2025 at 7:38 AM Column visibility + Add field

Fields	NID_ID	STATE	DAM_NAME	OTHER_NAME	HAZARD	EAP	STATE_NAME
CA00970	CA	SNOWFLOWER			LOW	YES	CALIFORNIA
CA00525	CA	HEATH RESERVOIR			LOW	YES	CALIFORNIA
CA00971	CA	ICE LAKES			LOW	YES	CALIFORNIA
CA00972	CA	MAST			SIGNIFICANT	YES	CALIFORNIA
CA00526	CA	EMERSON			SIGNIFICANT	YES	CALIFORNIA
CA00973	CA	WILLIAMS VALLEY			SIGNIFICANT	YES	CALIFORNIA
CA00974	CA	ROUND MOUNTAIN			SIGNIFICANT	YES	CALIFORNIA
CA00527	CA	CORRAL			SIGNIFICANT	YES	CALIFORNIA
CA00975	CA	CHINQUAPIN			SIGNIFICANT	YES	CALIFORNIA
CA00528	CA	RYE			SIGNIFICANT	YES	CALIFORNIA
CA00976	CA	MCGUIRE			SIGNIFICANT	YES	CALIFORNIA
CA00529	CA	SOUTH LOG POND			LOW	YES	CALIFORNIA
CA00977	CA	CRAWFORD RANCH			SIGNIFICANT	YES	CALIFORNIA
CA00530	CA	BIDWELL BAR CANYON S...			HIGH	YES	CALIFORNIA



3. Upload the other two .zip files to the folder you created earlier:

Water_Basins.zip

Major River, Main Stem, Primary & Secondary
Tribs.zip

And create hosted feature layers for both.

The screenshot shows the ArcGIS Online Content page. The user is logged in as Garrett R Smith (garrettsmith_uagis1). The page displays a list of uploaded items, including 'Arizona Water Basins' (Feature layer (hosted)), 'Arizona Major Water Courses' (Feature layer (hosted)), 'Western US Dams' (Feature layer (hosted)), and 'Western US Dams' (Shapefile). The 'Content' tab is selected. A red number '3' is overlaid at the bottom center of the screenshot.

Title	Type	Modified	Action
Arizona Water Basins	Feature layer (hosted)	Jul 25, 2025	Preview ...
Arizona Major Water Courses	Feature layer (hosted)	Jul 25, 2025	Preview ...
Western US Dams	Feature layer (hosted)	Jul 25, 2025	Preview ...
Western US Dams	Shapefile	Jul 25, 2025	Preview ...

EXPLORING DATA ON A MAP

In addition to checking the data table and visualization of all the individual Hosted Feature Layers another step that you want to take is to ensure that the data is being projected in the correct location is to place all of the Hosted Feature Layers on the same map.

1. In your Contents pane choose one of the Hosted Feature Layers to open its Overview.

Click on Open in Map Viewer.

2. Zoom into the Hosted Feature Layer that you choose in the Map Viewer window.

CONTENT TOOLBAR:

Manages key components of the map including adding layers, displaying legends, showing tables, choosing basemaps, creating charts, saving, and printing the map.

SETTINGS TOOLBAR:

Contains options to work with individual layers and the map itself.

Arizona Water Basins

REQUIRED: A summary of the intentions with which the data set was developed.

Feature layer (hosted)

Item updated: Jul 25, 2025

Description

REQUIRED: A brief narrative summary of the data set.

Layers

Arizona Water Basins

Polygon layer

Owner: Garrett R Smith (garrettsmith_uagis1)

Details

View count: 2

Source: Feature service

URL: <https://services1.arcgis.co...>

1

Untitled map

Layers

Arizona Water Basins

Add

CONTENT

Properties

Information

Symbology

Arizona Water Basins

SETTINGS

Edit layer style

Appearance

Blending

Normal

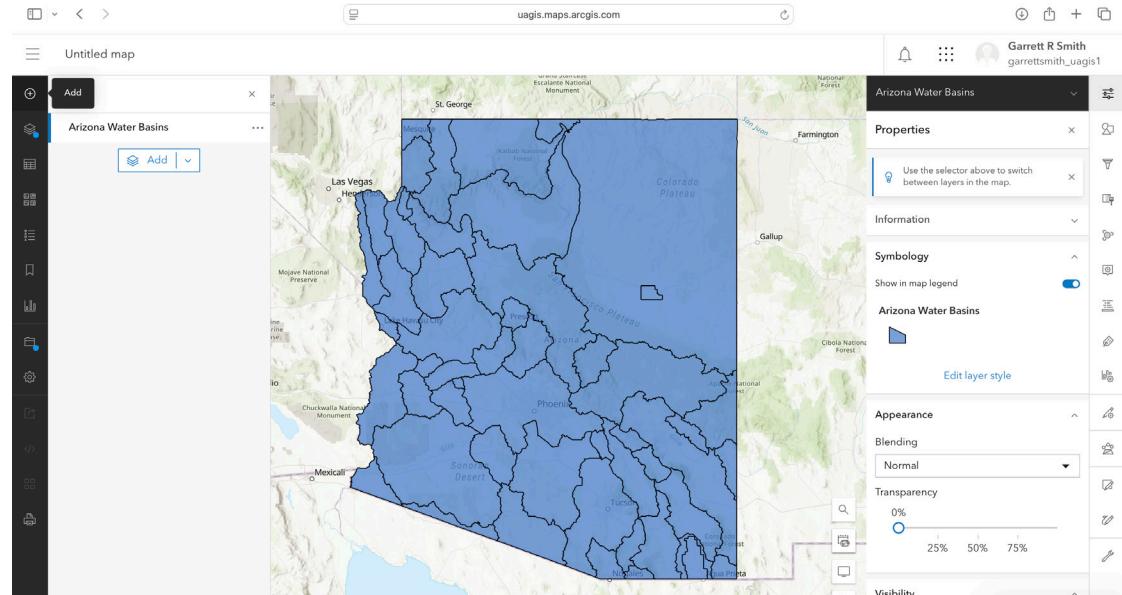
Transparency

Visibility

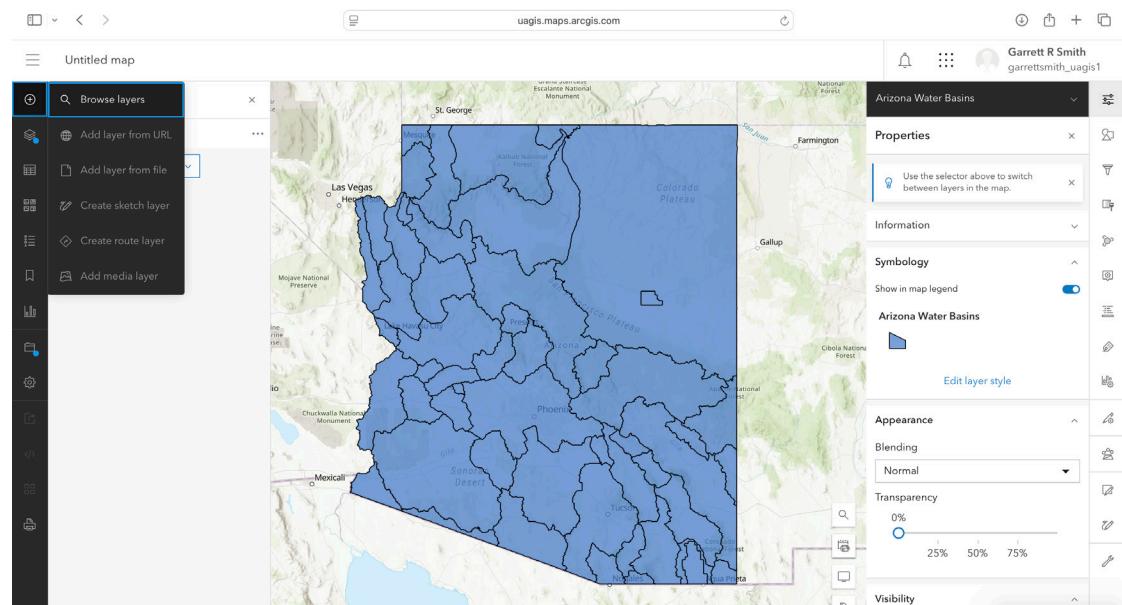
0% 25% 50% 75%

2

3. In the Content toolbar click on Add.



3

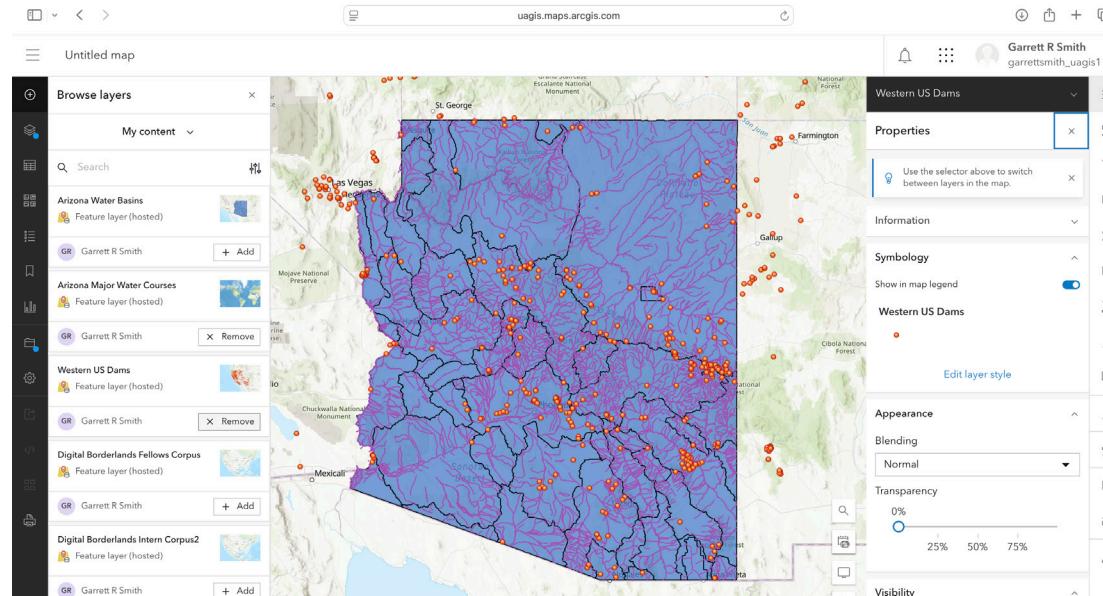


4

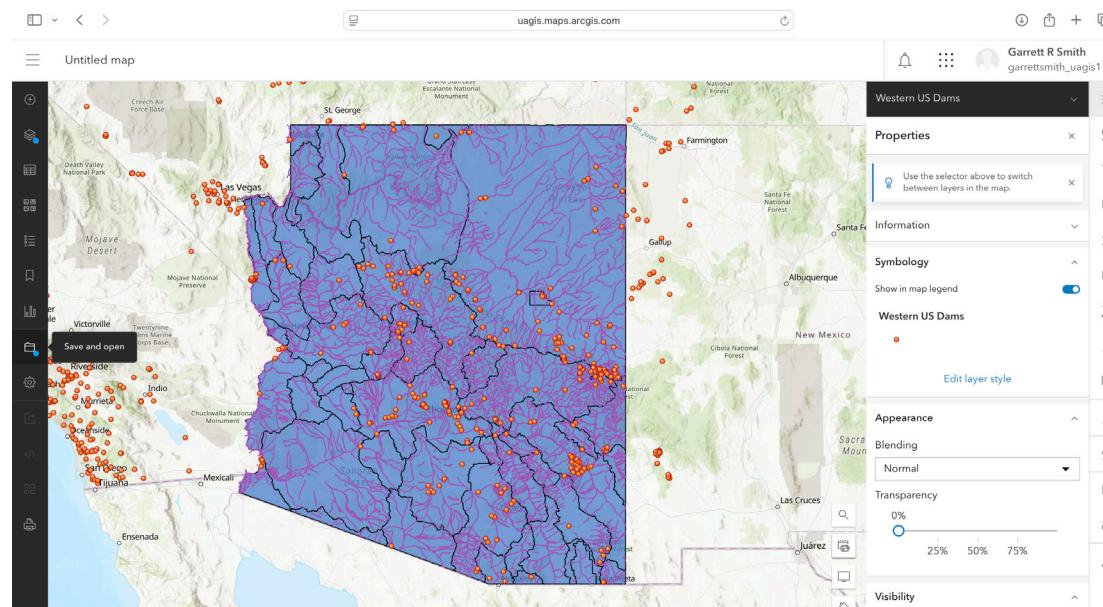
5. In the Browse layers pane add all of the Hosted Feature Layers that you added in the previous steps.
6. In the Content toolbar click on Save and open.

Click Save As.

In the Save map window give your map an appropriate Title and click Save.



5



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END