

Anticipating a Post-Disaster Supply Chain Disruption

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Scenario - Background

- You currently work for a major retailer in the United States with > 4,000 US stores
- Recent data shows: >40% of the US population regularly buys from your stores
- Due to your complex network of stores, and the need to maximize distribution and satisfy demand, your organization uses distribution centers
- With this network, the company reduces costs by purchasing large amounts of goods and distribute smaller quantities as required by demand in stores
- Using Walmart in Florida within this scenario

Scenario – Problem Statement

- Your organization receives information that a potential hurricane will impact Dade, Broward, and Palm Beach counties.
- Your organization wants to ship inventory for high-demand items (water, milk, diapers, batteries, flashlights, and first aid supplies) to these counties.
- Each Florida store (even those outside the designated counties) will keep a high level of stock and not share their inventory with the potentially affected counties.
- The hurricane trajectory model shows the state of Georgia may be impacted so you cannot use distribution centers in Georgia.

Identifying Stores at Risk – Building the Database

Search online for Walmart Stores for each Florida county. Start with Dade.

Add each store to an Excel spreadsheet, including the address and type of store. Then do the same for the other 2 counties.

U.S. Walmart Stores / Florida / Miami Walmart Stores

Walmart Store Directory

Miami

7 Walmart Stores in Miami, FL

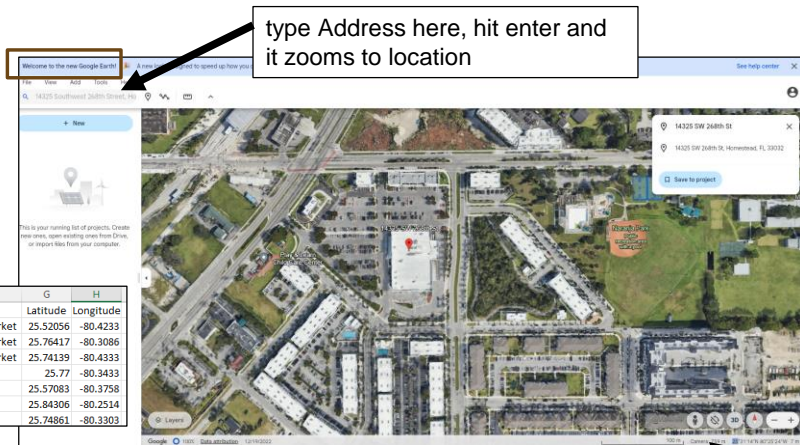
<p>Neighborhood Market #3935 14325 Sw 268th Miami, FL 33032 % 305.508.3333</p> <p>Supercenter #4161 9981 W. Flagler St Miami, FL 33174 % 786.803.5704</p> <p>Supercenter #5912 2161 S Dixie Hwy Miami, FL 33109 % 305.364.4203</p>	<p>Neighborhood Market #4140 6991 Sw 8th St Miami, FL 33144 % 286.267.6934</p> <p>Supercenter #4303 3200 Nw 79th Street Miami, FL 33147 % 305.263.6432</p>	<p>Neighborhood Market #5719 14720 Sw 26th St Miami, FL 33185 % 786.584.8752</p> <p>Supercenter #5854 8400 Coral Way Miami, FL 33155 % 305.351.0725</p>
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A	B	C	D	E	F	G	H
Store Number	Street Address	City	State	Zip	Type	Latitude	Longitude
3935	14325 SW 268th St	Miami	FL	33032	Neighborhood Market		
4140	6991 SW 8th St	Miami	FL	33144	Neighborhood Market		
5719	14720 SW 26th St	Miami	FL	33185	Neighborhood Market		
4161	9191 W. Flagler St	Miami	FL	33174	Supercenter		
5912	21151 S Dixie Hwy	Miami	FL	33189	Supercenter		
4303	3200 NW 79th St	Miami	FL	33147	Supercenter		
5854	8400 Coral Way	Miami	FL	33155	Supercenter		



Identifying Stores at Risk – Absolute Location

Get latitude and longitude from Google Earth and add to the Excel



Store Number	Street Address	City	State	Zip	Type	Latitude	Longitude
3935	14325 SW 268th St	Miami	FL	33032	Neighborhood Market	25.52056	-80.4233
4140	6991 SW 8th St	Miami	FL	33144	Neighborhood Market	25.76417	-80.3086
5719	14720 SW 26th St	Miami	FL	33185	Neighborhood Market	25.74139	-80.4333
4161	9191 W. Flagler St	Miami	FL	33174	Supercenter	25.77	-80.3433
5912	21151 S Dixie Hwy	Miami	FL	33189	Supercenter	25.57083	-80.3758
4303	3200 NW 79th St	Miami	FL	33147	Supercenter	25.84306	-80.2514
5854	8400 Coral Way	Miami	FL	33155	Supercenter	25.74861	-80.3303

Latitude and Longitude is found here

Identifying Distribution Centers

Search online for Walmart Distribution Center Locations

Read the website for which centers provide what kind of products.

Page down to get locations.

Include type of product.



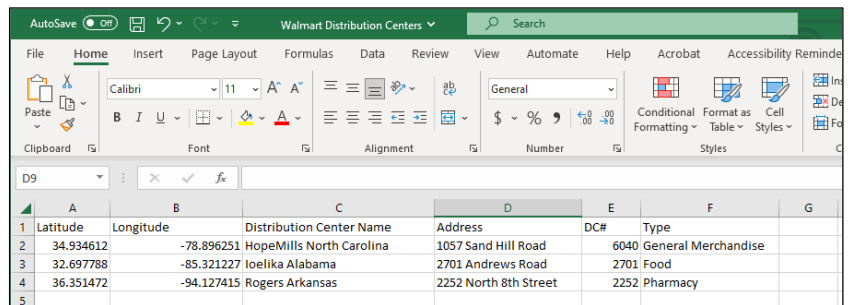
State	DC Number	Location	Square Feet	Year Opened	Description of Operation
Alabama	6006	2290 7th Avenue SW, Cullman, Alabama, 35065	1,200,000	January, 1983	Originally constructed at 900,000 sq ft for startup in 1983. Expanded in 1988 to 1,200,000 sq ft. \$300mm automation upgrade being made in 2023-2025.
Arizona	6031	23701 West Southern Avenue, Buckeye, Arizona, 85326-4328	1,550,000	March, 1993	Originally constructed to 1,200,000 sq ft as a long-term storage facility. Expanded in Sep 1999 by 352,000 SF to add Sam's Club/locks.
Arkansas	6094	5991 Southwest Regional Airport Boulevard, Bentonville, Arkansas, 72712-9431	1,200,000	August, 1998	Ships products to more than 100 stores in parts of Arkansas, Oklahoma, Kansas and Missouri.
Arkansas	6018	405 E South Rd, Searcy, Arkansas, 72143-8854	1,100,000	May, 1999	
California	7033	21181 Johnson Road, Apple Valley, California, 92307	1,340,000	March, 2004	
California	6021	1300 South F Street, Porterville, California, 93257-0909	1,200,000	September, 1991	
California	6026	10815 State Highway 99W, Red Bluff, California, 96080	1,170,000	January, 1994	
Colorado	6019/ 7249	7400 & 7100 East Crossroads Blvd, Loveland, Colorado, 80538	1,078,500	September, 1990	E-Commerce DC# 7749 included in Building
Delaware	7034	4860 Wheatley's Pond Rd, Smyrna, Delaware, 19977	1,200,000	January, 2004	
Florida	7035	18815 NW 116th Ave, Alachua, Florida, 32014-6006	1,200,000	September, 2006	Semi-automated goods to person technology for General Merchandise



Identifying Distribution Centers

Once the centers are identified, enter into a new Excel spreadsheet.

Add latitude and longitude as you did for the store locations

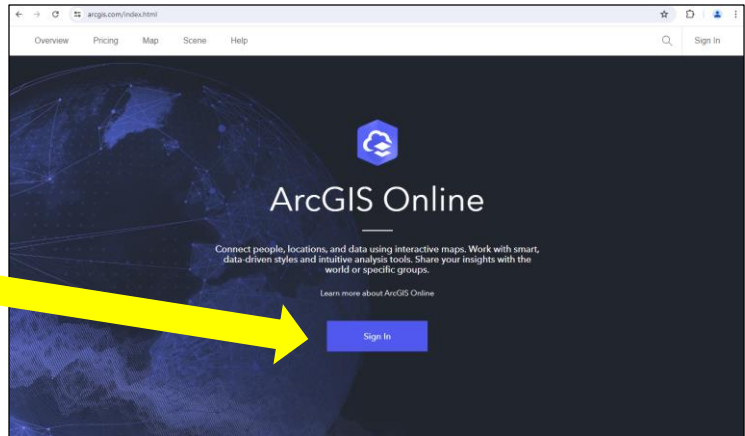


	A	B	C	D	E	F	G
1	Latitude	Longitude	Distribution Center Name	Address	DC#	Type	
2	34.934612	-78.896251	HopeMills North Carolina	1057 Sand Hill Road	6040	General Merchandise	
3	32.697788	-85.321227	Joelika Alabama	2701 Andrews Road	2701	Food	
4	36.351472	-94.127415	Rogers Arkansas	2252 North 8th Street	2252	Pharmacy	
5							


Opening ArcGIS Online

Search for ArcGIS Online

Click on the Sign In button



Signing In

Sign in 





ArcGIS login

Your ArcGIS organization's URL

.maps.arcgis.com

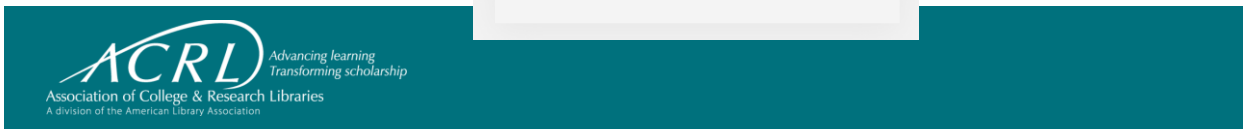
Remember this URL

[Continue](#)

No account? [Create an account](#)

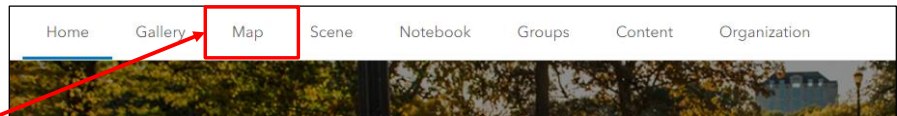
[Privacy](#)



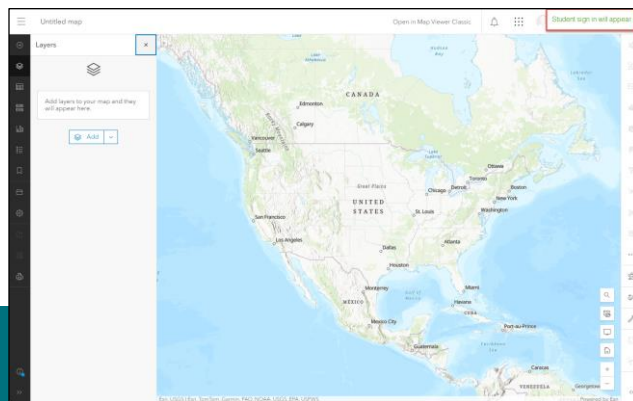
ArcGIS Online Platform

Once signed-in,

Click on Map



An untitled Map document will open

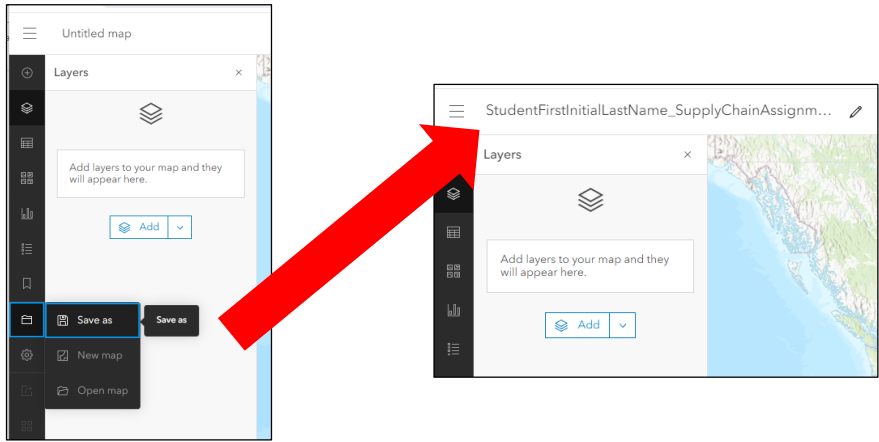


Student information

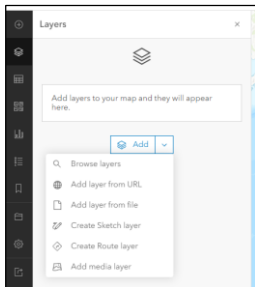


ArcGIS Online Platform – Saving Your Map

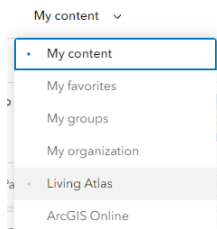
Left side of the computer screen



1. Click on the down arrow next to **Add**

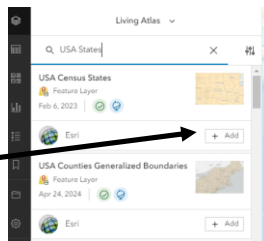


2. Click on the down arrow next to **My content** and choose **Living Atlas**



3. Search for **USA States**

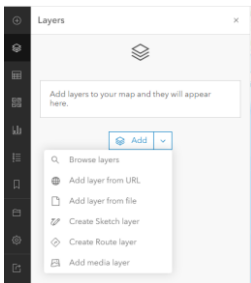
4. Click on **Add** next to **USA Census States**



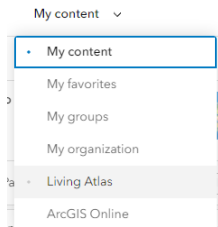
Setting up a Map – adding US state outlines

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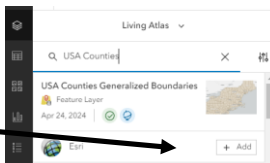
1. Click on the down arrow next to **Add**, choose **Browse layers**



2. Click on the down arrow next to **My content** and choose **Living Atlas**

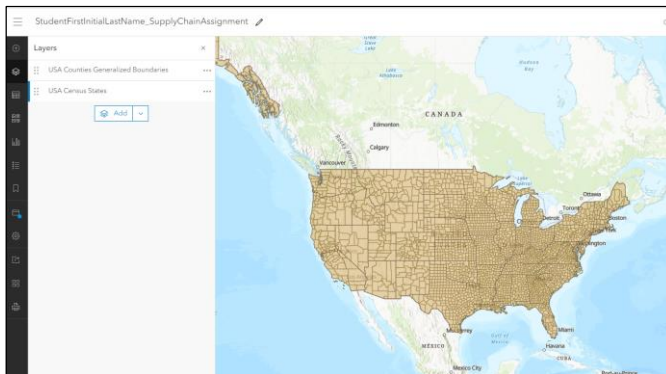


3. Search for **USA Counties**
4. Click on **Add** next to **USA Counties Generalized Boundaries**



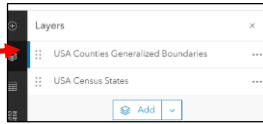
Setting up a Map – adding US county outlines

The state outlines are in the map but hidden by the counties. In the next two slides, you will learn how to display the states boundaries and only the Florida counties

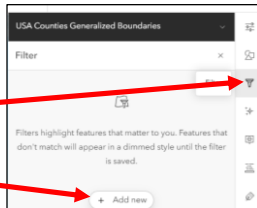


Setting up a Map – State and Counties Results

1. Click on the USA Counties layer, so it shows blue on the left



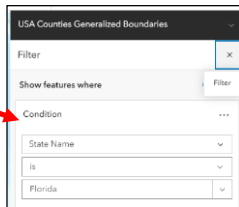
2. On the right side of the screen click on Filter



3. Click on Add new



4. Enter the information as shown

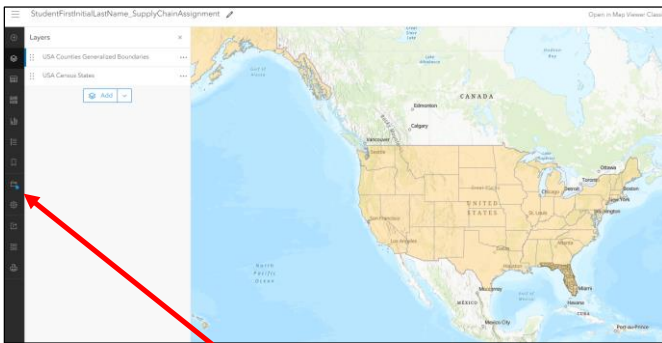


5. Click on Save at the bottom



Setting up a Map – only showing Florida counties and state outlines

Map shows States and Florida counties

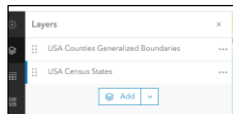


Save!

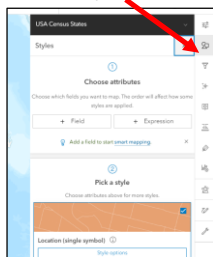
Click on the button on the left – the blue dot shows that there are changes that are not saved.

Setting up a Map – State and Counties Results

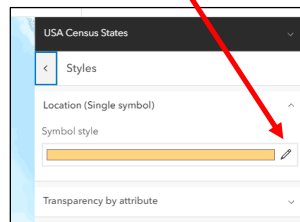
1. Click on USA Census States



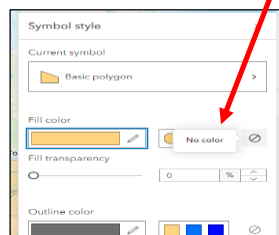
2. On the right, click on the Styles button



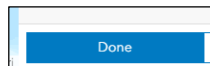
3. Click on the pencil at the end of the colored line



4. Click on the No color button

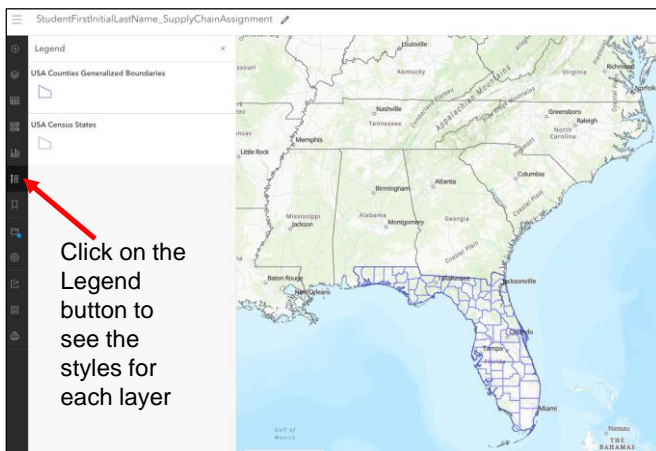


5. Click on done at the bottom



Setting up a Map –
Changing
symbolology to
display outlines
only

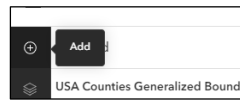
Now do the same thing for the Florida counties, to make them hollow, but choose a different color.



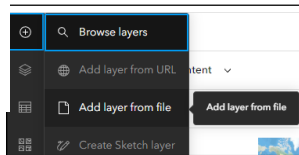
SAVE!

Setting up a Map – Changing Symbology

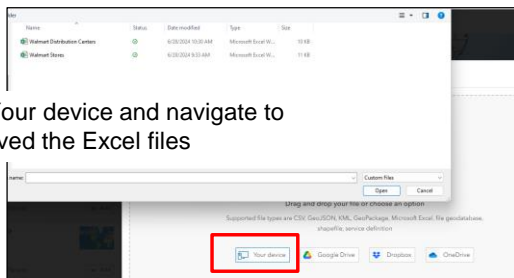
1. Click on the Add button (upper left)



2. Click on Add layer from file



3. Click on Your device and navigate to where you saved the Excel files



Adding Store and Distribution Center Locations to the Map

This box opens and all the fields from the Excel will show. Change the Latitude and Longitude type to Double!

The screenshot shows the 'Add Layer' dialog box with the 'Fields' section. It contains a table of selected fields with their display names and types. A red arrow points from the text above to the 'Double' type dropdown for the 'Longitude' field. Another red arrow points from the text below to the 'Next' button.

Field name	Display name	Type
<input checked="" type="checkbox"/> Store_Number	Store_Number	Integer
<input checked="" type="checkbox"/> Street_Address	Street_Address	String
<input checked="" type="checkbox"/> City	City	String
<input checked="" type="checkbox"/> State	State	String
<input checked="" type="checkbox"/> Zip_	Zip_	Integer
<input checked="" type="checkbox"/> Type	Type	String
<input checked="" type="checkbox"/> Latitude	Latitude	Double
<input checked="" type="checkbox"/> Longitude	Longitude	Double

Then click on Next

Adding Store and Distribution Center Locations to a Map

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This box opens, verify it is correct and click on Next.

Add Layer

Location settings
Specify the type of location information the file contains.

Latitude and longitude
Location data is latitude and longitude.

Location fields *

Location type	Field
Latitude	Latitude
Longitude	Longitude

Back Cancel Next

Adding Store and Distribution Center Locations to a Map

Enter the Title and then click Create and add to Map

How will Walmart Stores.xlsx be added?
This file will be used to create a hosted feature layer or table.

Title
Walmart Stores

Folder
IDM802509072_ohiostate

Tags
Add tags

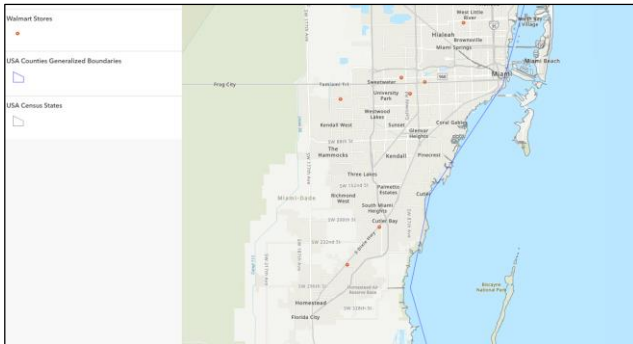
Summary
Add a summary

Characters left: 2048

Back Cancel Create and add to map

Adding Store and Distribution Center Locations to a Map

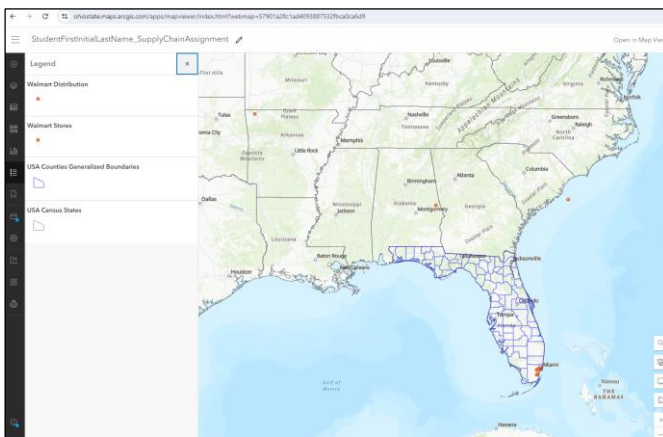
Points are created for each store and the map zooms to the layer.



Adding Store and Distribution Center Locations to a Map

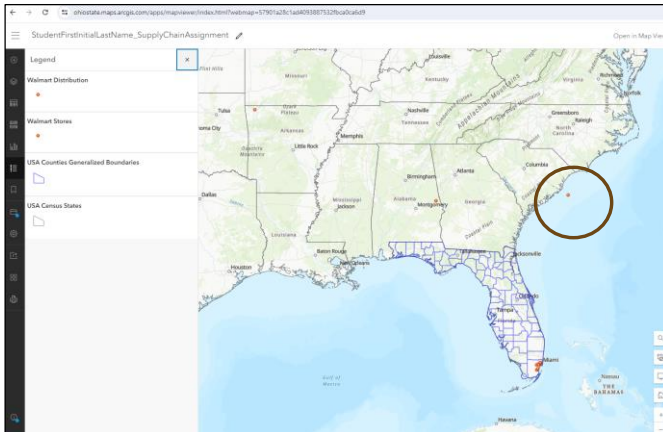
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Now complete the same process for the
Distribution Centers



Adding Store and Distribution Center Locations to a Map

If you have a location that ends up in the wrong place – you will need to double check your latitude and longitude.



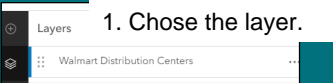
Correct it on the Excel, delete the file that was created in GIS, and then redo the process.

Adding Store and Distribution Center Locations to a Map

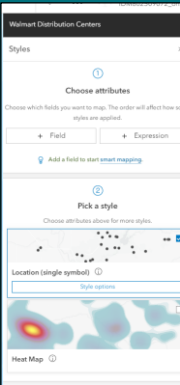
Change the styles to distinguish the stores from the distribution centers.

Changing Styles

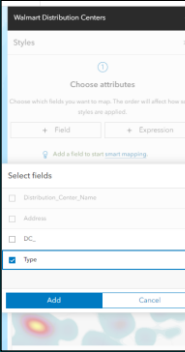
1. Chose the layer.



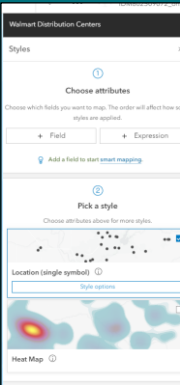
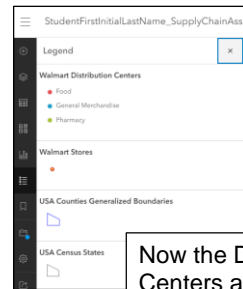
2. On the right, click the style button and under Choose Attributes, click on + Field



3. Select Type and click Add.



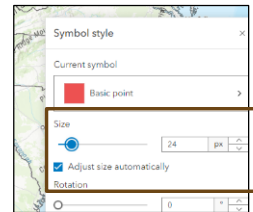
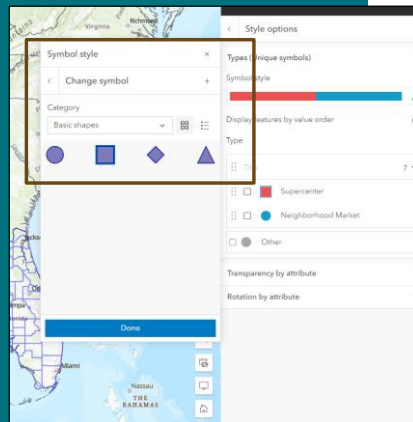
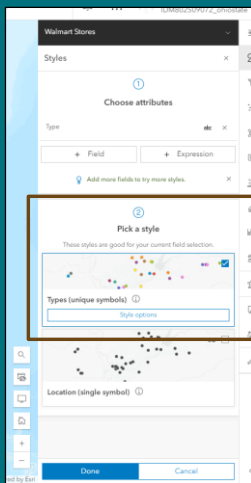
4. Then click Done at the very bottom.

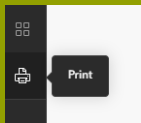
Now the Distribution Centers are identified by Type.

Do the same thing for the stores. You might also need to change the type of symbol (maybe squares) and change the symbol size.

Changing Styles



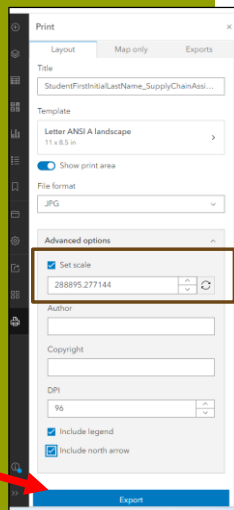
On the left side, the bottom icon is Print.



The print window displays.

Choose the settings as shown.

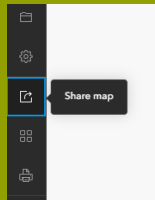
Then click on Export.



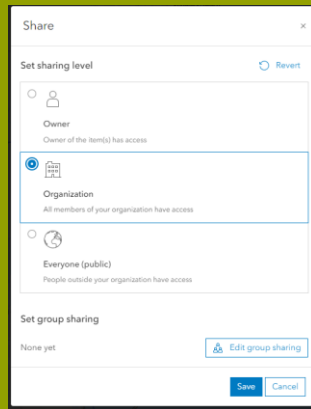
Printing a Map

Your scale setting will not be the same, it is dependent on how zoomed in or out you are

3rd icon from the bottom on the left is Share Map.



Change setting to Share with Organization. Click Save.



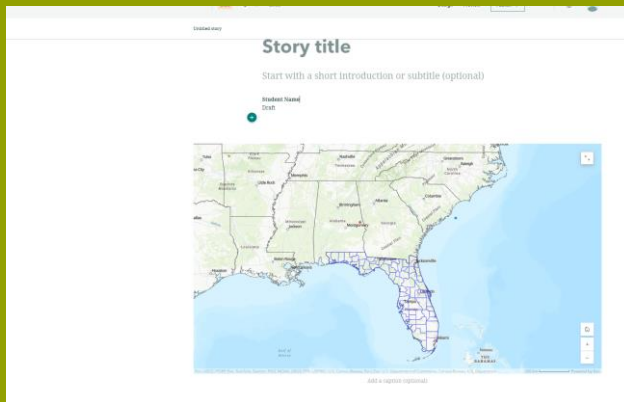
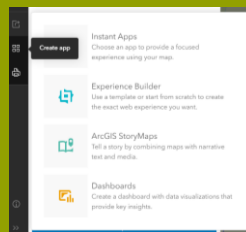
ArcGIS Online will next ask for you to confirm the Sharing.

Sharing a Map through the Organization portal



2nd icon from the bottom are Apps.

Click on ArcGIS Story Maps.



Creating a Story Map

Click this link for additional information on ArcGIS Story Maps

<https://storymaps.arcgis.com/stories/cea22a609a1d4cccb8d54c650b595bc4>

Use this final slide to
include your final
instructions to the
students

**For your final
instructions**

